

SEPTEMBER 1949

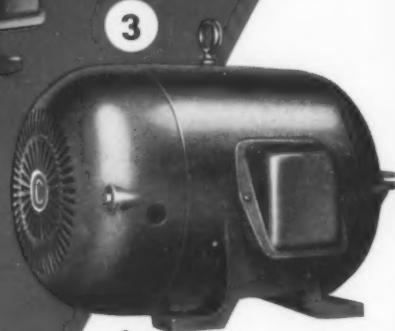
SEP 2 1949

Commercial Refrigeration

AND AIR CONDITIONING



MERCHANDISING, SELLING, INSTALLATION AND MAINTENANCE OF
COMMERCIAL REFRIGERATION AND AIR CONDITIONING EQUIPMENT



Century PROTECTED MOTORS

Let You Forget About Atmospheric Hazards

Shown here are four basic types of Century Protected Motors which are designed to resist the dangers of hazardous atmospheres. A properly selected Century motor—with the right protection—is the ideal combination for a long life of satisfactory performance.

1 Open Protected—Form J, general purpose motor—meets the needs for most installations where operating conditions are relatively clean and dry. The top half of the motor frame is closed to keep out falling solids or dripping liquids.

2 Splash Proof Motor—gives the necessary protection where plants must be washed down—keeps water out of the motor even when a hose is applied directly on the frame. It also provides protection

against rain, snow, sleet and ice for outdoor installations.

3 Totally Enclosed Fan Cooled Motor—protects against dusts, mist or fog that might be detrimental to the vital parts of the motor. The inner frame protecting the motor is sealed to keep out harmful matter.

4 Explosion Proof Motor—protects against atmospheres charged with explosive dusts or gases. They carry Underwriters' label for specific kinds of hazards.

Century builds a complete line of alternating and direct current motors in a wide range of types and kinds—in sizes from 1/6 to 400 horsepower.

Specify Century motors for all your electric power needs.

Popular types of standard ratings are generally available from factory and branch office stocks.



CENTURY ELECTRIC COMPANY 1806 Pine Street • St. Louis 3, Missouri

Offices and Stock Points in Principal Cities

CLIMAXING

25 YEARS'

**REFRIGERANT
CONTROL
EXPERIENCE...**

**Field tested and proved on more than
12,000 actual installations!**

ACTUAL SIZE

**RUGGED
COMPACT
SIMPLE**

ALCO 402 THERMO VALVE

**It packs more performance into 4-3/16 inches than any valve
you've ever seen!**

Perfected after years of research, this latest Alco Thermo Valve is designed expressly for small commercial fixtures (capacity up to 1/4 ton F-12 or 1 ton Methyl Chloride). You'll find every feature you could want in the 402.

- **LIQUID CHARGED**... mount anywhere in any position
- **SMALL FORGED BRASS BODY** fits into those "tight" spots
- **SEPARATE PRESSURE LIMITING** element prevents motor overload
- **REVERSE SEATING** assures even feed at any load up to capacity
- **WIDE SUPERHEAT ADJUSTMENT** range (2° to 20° F) permits proper valve setting for all small commercial applications
- **REMOVABLE STRAINER** gives maximum protection plus easy cleaning

May we send you Bulletin 402 with complete details?

Every feature of the Alco 402 has already proved its dependability...users are enthusiastic about the sparkling performance of this smaller, simpler, sturdier valve.

Designers and Manufacturers
of Thermostatic Expansion
Valves; Evaporator Pressure
Regulators; Solenoid Valves;
Float Valves; Float Switches.



ALCO VALVE CO.

843 KINGSLAND AVE. • ST. LOUIS 5, MO.

*Here's why this compact Carbonator
is EASY to sell... EASY to install...*



**New packaged TEMPRITE saves real money for owners
of Taverns, Soda Fountains, Roadside Stands, etc.**

You can get steamed up over the new Temprite Carbonator with little effort... and you can sell it like hot cakes! It's neat, compact and reliable. It gets the last full measure of *instantaneous carbonation* from every tank of CO₂ gas—pays for itself in no time at all and saves real money for its owner! There's no waste of CO₂ gas. No venting. No purging.

There are no flat, unpalatable drinks. Every glass sparkles with zip and zing. *Carbonation is automatic and controlled.*

But just listen to this. The Temprite user gets up to 6450 glasses of highly carbonated water from a 20 lb. tank of CO₂ gas. Can you top this?

The stainless steel carbonator itself is highly simplified; contains no moving parts, and packaged as it is with pump, motor and relay assembly, only three simple connections are necessary for a fast, easy installation. Fits in practically any location or under any fountain. Complete assembly weighs only 59 pounds.

Use the handy coupon below for full details.

TEMPRITE PRODUCTS CORP.

41 Piquette Avenue
Detroit 2, Michigan

Please send me complete details on your new packaged Temprite Carbonator.

NAME _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____

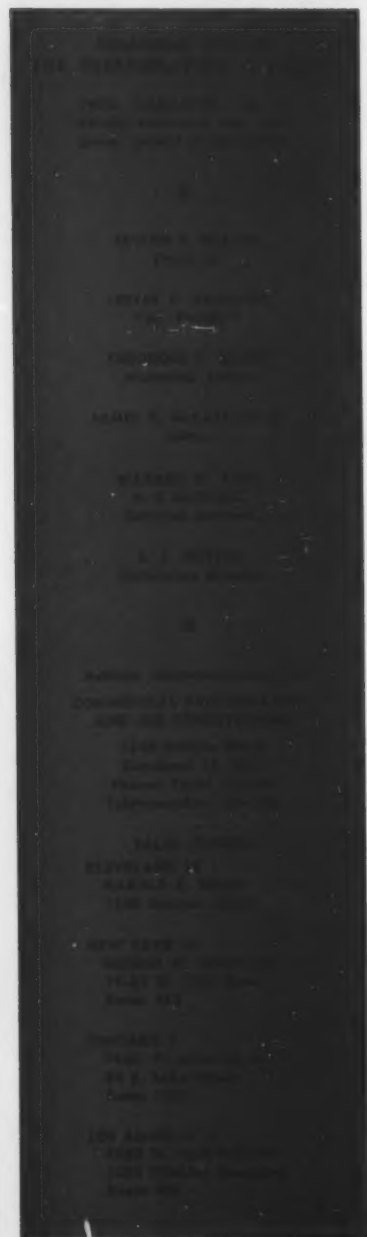
Temprite
Products Corp. 41 Piquette, Detroit 2

Manufacturers of commercial and cabinet type water coolers, industrial water coolers, carbonators, draught beer coolers, soda fountain coolers, temperature control valves, oil separators, equalizer tanks, heat exchangers, etc.



Commercial Refrigeration

AND AIR CONDITIONING



THE COVER . . . A section of the main restaurant at Schrafft's new show-place in Rockefeller Center, New York City. Largest service restaurant in the world, this deluxe new establishment uses refrigeration equipment at every stage from food preparation to garbage disposal, and provides air conditioning for the comfort of patrons and employees alike. For the complete story see page 33.

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Gaskets

ALL SHAPES

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FOR ALL INDUSTRY

**DEE-GEE GASKETS
ARE SOLD EXCLUSIVELY
TO ORIGINAL EQUIPMENT
MANUFACTURERS
FOR THEIR PRODUCTION
AND SERVICE**

DETROIT GASKET & MANUFACTURING COMPANY

DETROIT 23, MICHIGAN

THE WORLD'S

leading appliance manufacturers are listed among Grand Rapids Brass customers. Because in building the

FINEST

products, in terms of quality and value, it is only natural that they select hardware for their

APPLIANCES

that will continue to look like new and function perfectly through long years of service — hardware which will

HAVE

such customer-attracting features as smart, modern designs, beautiful chrome-plated finishes, and locks with "Living Action" which assure easy dependable operation.

GRAND RAPIDS BRASS

will be glad to estimate your needs in commercial, domestic refrigeration hardware, stove hardware and nameplates for all kinds of appliances . . .

HARDWARE

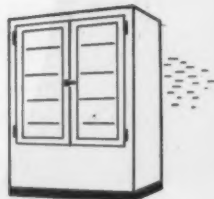
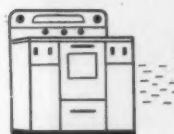
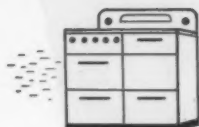
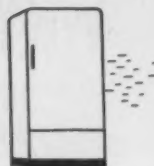
that will give you and your customers assurance of satisfaction, outstanding quality and workmanship.

Manufacturers of hardware for COMMERCIAL REFRIGERATORS, DOMESTIC REFRIGERATORS, GAS STOVES, WASHING MACHINES, ELECTRIC RANGES

DIVISION OF CRAMPTON MANUFACTURING COMPANY

Grand Rapids Brass
C O M P A N Y

GRAND RAPIDS 4, MICHIGAN



WHY "FREON" REFRIGERANTS MEET WITH NATION-WIDE APPROVAL

OUTSTANDING CHARACTERISTICS OF "FREON" REFRIGERANTS

- NONTOXIC
- NONFLAMMABLE
- NONEXPLOSIVE
- NONCORROSIVE
- ANHYDROUS
- PURITY
- QUALITY
- ACID FREE
- NARROW BOILING-
POINT RANGE
- AVAILABILITY

The narrow-boiling point range of "Freon" refrigerants (confined within limits of 1° C.) is another reason why engineers and manufacturers recommend equipment designed to use these refrigerants—for both large and small installations. High- and low-boiling impurities in a refrigerant can damage refrigerating equipment, so the narrow-boiling point range of "Freon" refrigerants is vital to the economical, efficient and continuous performance of modern air conditioning and refrigeration systems. Freedom from acids is another quality that enables "Freon" refrigerants to safeguard equipment.

In addition, "Freon" refrigerants are safe... nontoxic, nonflammable, nonexplosive, noncorrosive, odorless and nonirritating. Should a serious breakdown or leak occur, "Freon" will not injure people or pets, or damage foods, fabrics or finishes. These refrigerants comply with the safety rules of all building codes, and they are classified among safe refrigerants listed in Group 1 of the A. S. A. B-9 code.

Furthermore, "Freon" refrigerants are as pure as modern scientific methods of manufacture can make them. Periodic tests and inspections are made throughout the manufacturing process to assure this purity and quality. For example, in addition to the extremely narrow-boiling point range, there are not more than ten parts of moisture in a million parts of "Freon-12," the most widely used refrigerant. This dryness prevents freezing in capillary tubes and valves. It eliminates both the possibility of corrosion from water and the sludging of oil in compressors, evaporators and condensers.

Today there is plenty of "Freon" to meet every commercial, industrial and household requirement. There are "Freon" refrigerants especially suitable for every air conditioning and refrigeration purpose. Throughout the industry—engineers unhesitatingly recommend equipment designed to utilize "Freon" safe refrigerants.

Kinetic Chemicals, Inc.
Tenth and Market Sts., Wilmington 98, Del.



FREON *SAFE* REFRIGERANTS

"Freon" is Kinetic's registered trade mark for its fluorinated hydrocarbon refrigerants



Outstanding Examples OF KOCH QUALITY AND LEADERSHIP!

MODEL 306

Three-Shelf Display Case

Yes — three sales-making shelves — each with its own refrigeration system (natural convection type) — each with its own individual full-length fluorescent lighting. Ends removable for endless display. Full-length plate glass mirror mounted at rear of upper shelf. Exterior front and ends porcelain. Display compartment high-baked white Dulux on coated steel. Steel in and out. Display shelves of steel, finished in high-baked white Dulux. Three-inch thick fibre glass used throughout.

More good reasons why Koch is
"THE LINE OF LEAST RESISTANCE"

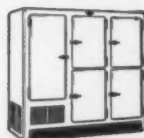
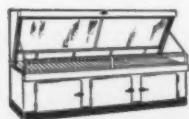


MODEL 350B

All-Purpose Wall Case

This 8-ft. long wall-type case, finished in spotless white porcelain on the front, has huge capacity in proportion to the floor space. It is easy to work through the wide doors, and easy for customers to help themselves. Shelves are arranged invitingly, with price card molding along the front. K-Beam fluorescent lighting calls customers' attention to the appetizing and tempting dairy products, packaged meats or bottled beverages on display. Sliding doors also open to lower compartment.

Koch Produces Equipment for Nearly Every Type of Commercial Use!



Write Today for Details on the Complete Koch Line
Some Attractive Territories Are Still Available

KOCH Refrigerators

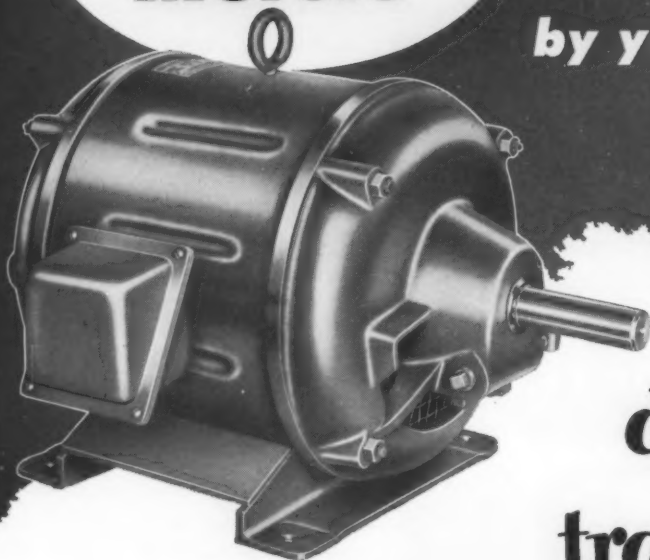
KOCH Refrigerators
North Kansas City 16, Mo.

CR

Gentlemen: Please send full information on the
KOCH line of commercial refrigerators.

Name.....
Firm Name.....
Address.....
City.....Zone.....State.....

Wagner STEEL-FRAME Motors



Proved
by years of service!

quiet...
dependable...
trouble-free!

Since 1930, when Wagner started manufacturing steel-frame drip-proof motors, they have been *proved*—by years of hard usage in industry after industry.

Today this time-tested design is available in poly-phase motors through 326 frame size. The motor frames are formed of heavy rolled steel, shaped to accurately center the stator core and to provide passages for adequate ventilation. An auxiliary fan draws in air through the openings in the front endplate, forces it through these passages and out through the endplate openings on the drive end.

Heat is effectively carried off from all parts of the motor.

These motors are available with either sleeve or ball bearings. They are completely drip-proof when mounted in the normal horizontal position, and by rotating the endplates are still drip-proof in the sidewall or ceiling horizontal positions.

Bulletins give full information on the complete line of Wagner Motors. Twenty-nine branches, located in principal cities, are ready to assist you whenever you have a motor problem. In addition, almost 500 authorized motor repair shops provide speedy, nationwide service facilities.

Wagner Electric Corporation

6442 PLYMOUTH AVE., ST. LOUIS 14, MO., U. S. A.



Consult Wagner Engineers on all Electric Motor Problems



• ELECTRIC MOTORS • TRANSFORMERS • INDUSTRIAL BRAKES • AUTOMOTIVE BRAKE PRODUCTS •

M49-2

demand **DETROIT CERTIFIED VALVES and CONTROLS**



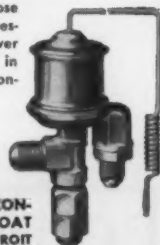
designed right
built right
proven right



When you install DETROIT Certified Valves and Controls you are providing your customers with the best in refrigeration equipment. DETROIT Certified Valves and Controls are designed and built to fit your customer's needs—giving real economy and reliability through years of trouble-free service. This is true of the entire DETROIT line, one of the most complete in the refrigeration field. Add to this the fact that DETROIT has been famous for quality for over 70 years and you

have an unbeatable combination. But DETROIT goes even further, certifying every valve and control in its line—backing you, your work and your reputation. For helpful information on ordering and installing DETROIT Certified Valves and Controls, send for the colorful DETROIT Catalog No. 200-B today.

No. 573 Thermostatic Expansion Valve—Designed for small commercial installations. Double diaphragm construction makes close superheat control possible at low suction pressures. The two-diaphragm gas charged power element provides motor overload protection in its simplest, most effective form. ½ ton, Freon-12. Write for Catalog No. 200-B.



No. 573

DETROIT

LUBRICATOR COMPANY

5900 TRUMBULL AVE., DETROIT 8, MICHIGAN

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

CANADIAN REPRESENTATIVE: RAILWAY & ENGINEERING SPECIALTIES, LTD.—MONTREAL, TORONTO, WINNIPEG



DETROIT HEATING AND REFRIGERATION CONTROLS • ENGINE SAFETY CONTROLS • FLOAT VALVES AND OIL BURNER EQUIPMENT • DETROIT EXPANSION VALVES AND REFRIGERATION ACCESSORIES • STATIONARY AND LOCOMOTIVE LUBRICATORS

Serving home and industry AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILER • ROSS HEATER • TONAWANDA IRON

and AIR CONDITIONING • SEPTEMBER, 1949

NO JOB TOO
small
NO JOB TOO
large



Model F505 water cooled,
5 hp. Lipman unit uses Freon-
12 refrigerant.



There's no need to miss out on a refrigeration job because you can't furnish the right size units.

There's no need for your customers to waste money on a machine too large for their job . . . or run a small unit at dangerously high speeds to carry a big load.

When you handle the Lipman line your customers can choose the right model for their specific needs . . . because Lipman offers a complete line: $\frac{1}{4}$ thru 40 hp.; air or water cooled; ammonia, Freon-12 or methyl-chloride refrigerants. With Lipman you are sure to have a unit that will be right for each job . . . right for customer satisfaction . . . right for you in profits. Send for full information on this complete line.

GENERAL REFRIGERATION

DIVISION

YATES-AMERICAN MACHINE CO. Beloit, Wisconsin



More and More...Engineers Agree
 that It's not **HOW MUCH** moisture
 you remove from a refrigeration system
 that counts...

...It's **HOW LITTLE** moisture
 is left!



That is why they install a
SPORLAN CATCH-ALL
 when they really want to dry
 a system.

They know that the Catch-All is the
 Perfect Filter-Drier because it dries
 down to a Low End Point... a point
 So Low that any remaining
 moisture is
 absolutely harmless!

why is the
SPORLAN



THE PERFECT FILTER-DRIER

because

Its unique, porous cylinder is made up of
 minute particles of a highly efficient desiccant,
 whose efficiency is greater than that of the same
 desiccant in granular form.

because

After being completely assembled, it is
 activated to a high degree of dryness and immedi-
 ately sealed with moisture proof seals to prevent
 any moisture from entering before installation.

because

It cannot powder!

because

It cannot pack!

because

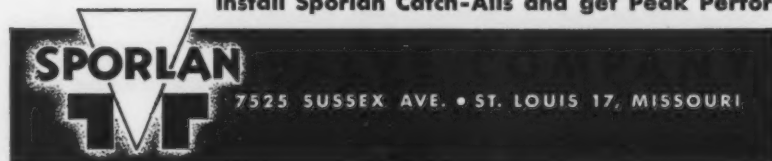
The refrigerant cannot channel!

because

Being scientifically molded to provide progres-
 sive filtering it filters any foreign matter as minute
 as 9 microns with negligible pressure drop.

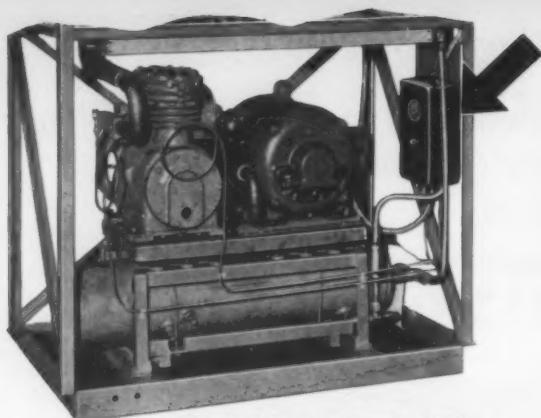
Having a molded, porous cylinder, the Catch-
 All is inherently free from powdering, packing
 and channeling. Designed scientifically to give
 maximum contact of refrigerant and desiccant, the
 Catch-All is a perfect filter and a perfect drier.

When you want clean Bone-Dry refrigeration systems...
 install Sporlan Catch-Alls and get Peak Performance on all installations

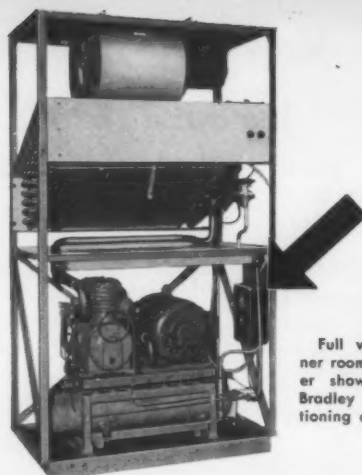


★ **Coming Soon!**

Larger Capacity Catch-Alls with
 Replaceable Cores and a New
 Small Size Catch-All for Domestic
 Refrigerators and Small
 Commercial Package Units.



Close-up of compressor unit: Bulletin 709 Solenoid Starter in cabinet with high-pressure cutout and temperature control.



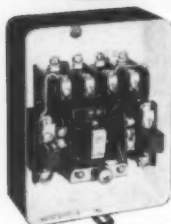
Full view: Brunner room conditioner showing Allen-Bradley air-conditioning control unit.



AIR-CONDITIONERS

equipped with

Trouble-Free Motor Controls



Bulletin 709, Size 1 Solenoid Starter. Compact, simple, and trouble-free. Ample wiring space.

WHY ARE ALLEN-BRADLEY STARTERS SO POPULAR for air-conditioning service? . . . Because they are trouble-free. Only one moving part. No pivots, pins, or bearings to corrode or stick . . . no jumpers to break. You install them . . . and forget them!

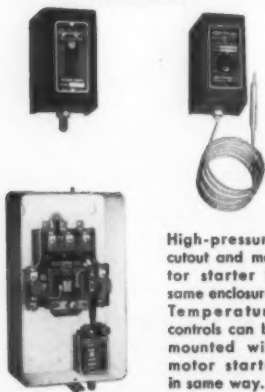
NO CONTACT MAINTENANCE. Allen-Bradley patented silver alloy contacts never need cleaning, filing, or dressing.

DEPENDABLE OVERLOAD RELAYS. Allen-Bradley thermal relays are accurate and dependable even after long service.

The A-B trademark stands for millions of trouble-free operations. Allen-Bradley Co., 1340 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY AIR-CONDITIONING AND REFRIGERATION CONTROLS

PRESSURE AND TEMPERATURE CONTROLS

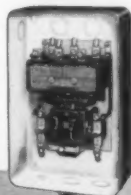


High-pressure cutout and motor starter in same enclosure. Temperature controls can be mounted with motor starter in same way.

MANUAL STARTER



AUTOMATIC STARTER



COMBINATION STARTER



HEAVY COMPRESSION STARTER



ALLEN-BRADLEY

SOLENOID MOTOR CONTROL



BRUNNER
SINCE 1906

REFRIGERATION helps you serve better

HERE IS REAL REFRIGERATION APPLICATION HELP!



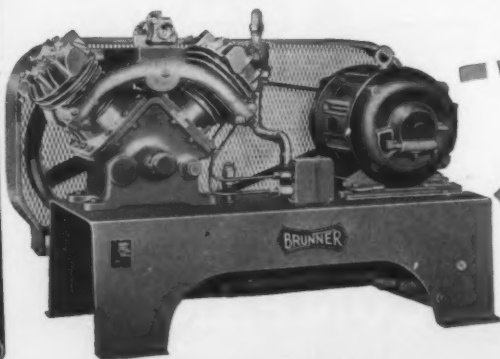
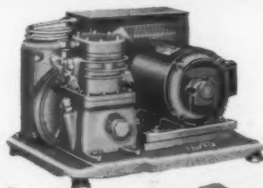
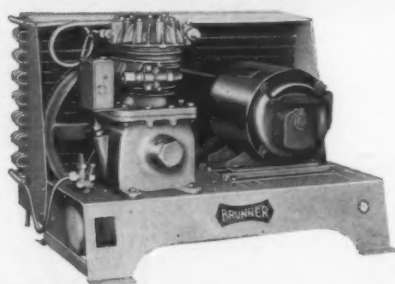
Even with a sound knowledge of refrigeration principles and a broad installation experience, refrigeration men rarely find the answers on any two jobs to be alike. That is why we have included a great deal of helpful, time-saving application data in this new Brunner catalog. Several pages of "cross section" illustrations help in showing customers exactly why you recommend a certain size and type of condensing unit.

Equally important are 22 pages of illustrations and capacity data on all the Brunner air and water cooled refrigeration condensing units.

BRUNNER MANUFACTURING CO.

Utica 1, New York, U.S.A.

TO RESPONSIBLE REFRIGERATION MEN, this data will prove valuable. A note on your letterhead will bring a copy by return mail. No charge.



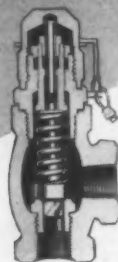
**REFRIGERATION
CONDENSING UNITS**

...a size and type
for every purpose

BRUNNER
SINCE 1906

AIR AND WATER COOLED MODELS
1/4 HP. TO 30 HP.

Relief Valve
Size range: $\frac{3}{8}$ " thru 2"



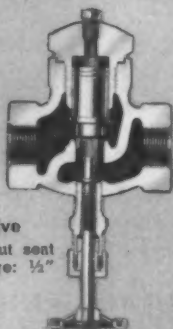
Screwed Bonnet Shut-Off Valve
Size range: Globe and Angle, $\frac{1}{4}$ " thru 1"; Tees, $\frac{3}{8}$ " thru 1"



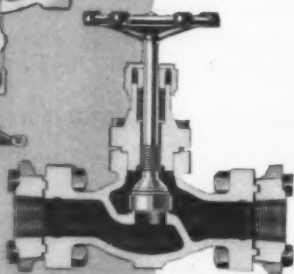
Bolted Bonnet Shut-Off Valve
Size range: Globe and Angle, $\frac{1}{4}$ " thru 2"



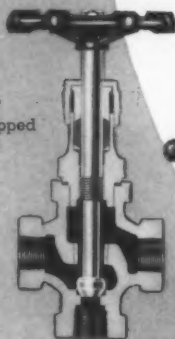
Check Valve
With or without seat lift. Size range: $\frac{1}{2}$ " thru 2"



Flanged Shut-Off Valve
Size range: Globe, $1\frac{1}{4}$ " thru 4"



Three Way Dual Shut-Off Valve
Size range: $\frac{1}{2}$ " thru 1", capped and handwheel types



Expansion Valve
Size range: Globe and Angle, $\frac{1}{4}$ " thru 1"



Liquid Level Gauge
Forged Steel
Size range: $\frac{3}{8}$ " and $\frac{1}{2}$ "



★
FIELD PROVEN FEATURES
HAVE MADE
**HENRY
AMMONIA
VALVES**
THE MOST POPULAR LINE
IN THE
REFRIGERATION INDUSTRY
★



See Your Jobber —
Write for
Catalog No. 99

VALVES • DRIERS • STRAINERS • CONTROL DEVICES and ACCESSORIES FOR REFRIGERATION and AIR CONDITIONING and INDUSTRIAL APPLICATIONS

HENRY VALVE COMPANY

MELROSE PARK, ILLINOIS (Chicago Suburb)

Cable: HEVALCO, MELROSE PARK, ILLINOIS

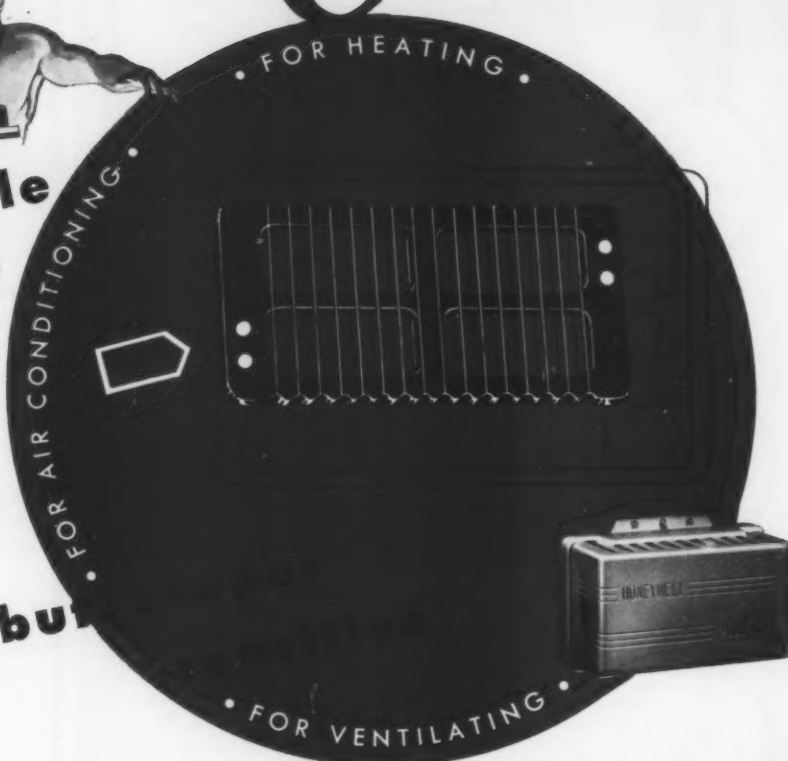
HONEYWELL

Electronic Control



**just a simple
coil of wire**

...but



THE MAGIC of electronics now brings a new type of automatic control 100 times more sensitive than existing controls for air conditioning installations. This new standard of precision control also brings extreme simplicity with added flexibility. The Honeywell Electronic thermostat is a simple coil of wire with no moving parts—nothing to wear out. But see how other factors are simplified! Basic circuits are the same for all types of applications. Fewer control units are needed. Single thermostats, for example, can be used for both heating and cooling with automatic change-over from one to the other at any selected temperature level.

It means a simple, practical answer for many problems to which, until now, there has been no clear-cut solution. So watch Honeywell Electronic Control carefully. It's opening the way for new horizons in the industry. Minneapolis-Honeywell, Minneapolis 8, Minnesota. In Canada: Leaside, Toronto 17, Ontario.



73 BRANCHES FROM COAST TO COAST WITH SUBSIDIARY COMPANIES IN: TORONTO • LONDON • STOCKHOLM • AMSTERDAM • BRUSSELS • ZURICH • MEXICO CITY

and AIR CONDITIONING • SEPTEMBER, 1949



**IT'S ALWAYS AN OPEN
AND SHUT CASE WHERE**

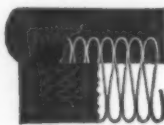
**Bridgeport
INNER-SEAL**

IS INVOLVED

**Preferred by the leaders* of every
field where weatherstripping is vital**

When the issue involves the positive exclusion of dust, dirt, dampness, heat or cold, there can be but one decision—Bridgeport Inner-seal Weatherstripping. For protecting vital equipment on locomotives, maintaining optimum hold conditions on refrigerated ships or sealing passenger comfort into planes, busses and railroad cars, Bridgeport Inner-seal has no equal. Its unique design and rugged construction make it easier to install, positive in sealing and extremely long lived, even when exposed to the toughest treatment. Consisting of a live sponge rubber bead molded for life onto a flexible flange woven of spring steel wire and strong cotton thread, Inner-seal can be fitted, by any careful workman, into tight corners or around compound curves to provide a perfect seal. Standard Inner-seal is latex-dipped, but for installations exposed to the ravages of oil, grease, sunlight, salt water or extreme temperature variations, it may be coated with durable neoprene.

*We'll gladly furnish names on request.



Inner-seal is manufactured in many standard sizes and colors for immediate delivery, or may be designed to meet unusual applications. Write for samples and data sheet with complete details.

Tough Spring Steel Wire Molded Into Live Sponge Rubber
Cable Address: DAVTEXCOE, New York

**Bridgeport
FABRICS, INC.**

Export Address: 75 West St.
New York N.Y. **BRIDGEPORT 1, CONN.**
Est. 1837

LETTERS

Batch Freezers, Bar Sinks Wanted By Reader

EDITOR:

I have a customer for a batch ice cream freezer of 2½ or 5 gal. capacity, less the refrigeration. This customer has a brine storage of his own with plenty of capacity to take care of the freezer.

Could you tell me where this equipment is available? Also any information on back of bar sinks for taverns.—Lowell Lewis, Oxford, N. Y.

Following are manufacturers of batch-type ice cream freezers: Cherry-Burrell Corp., Chicago, Ill.; Creamery Pkg. Mfg. Co., Chicago 7, Ill.; Food Processing Machine Co., Milwaukee 1, Wis.; Tekni-Craft, Beloit, Wis.; Emery Thompson Machine & Supply Co., Bronx, N. Y.

Manufacturers of sinks applicable for back of bar use are: Meyer Equipment Co., Buffalo, N. Y.; Hercules Food Service Equipment Inc., Brooklyn, N. Y.; Supreme Metal Fabricators, Brooklyn, N. Y.; Southern Equipment Co., St. Louis, Mo.; H. K. Küchen & Bar Equipment Corp., New York, N. Y.—Editor.

Interested In Export?

EDITOR:

Our government is interested in buying mortuary cabinets and we shall greatly appreciate it if you would send us by return airmail catalogs and quotations on such equipment.—Fortune L. Bogat, Secretary, Societe Haitienne D'Automobiles, S. A., P. O. Box No. A-103, Port Au Prince, Haiti.

A list of manufacturers of mortuary equipment was sent Mr. Bogat in response to this request. However, manufacturers who may wish to contact his office directly should do so at the address shown above.

Who Says 13 Is Unlucky?

EDITOR:

We thank you for your communication of recent date containing the names of 13 parties desiring more information on the Fogel line.

We will, of course, forward this information to them immediately.

Thank you for your cooperation.—Joseph Byrnes, Sales Dept., Fogel Refrigerator Co., Philadelphia, Pa.

Why not Profit from Experiences of others?



"Our customers prefer parts made by a leader in the industry, so we use genuine Frigidaire Parts," says Robert Gibson, Fort Smith Refrigeration & Equipment Co., Fort Smith, Arkansas.

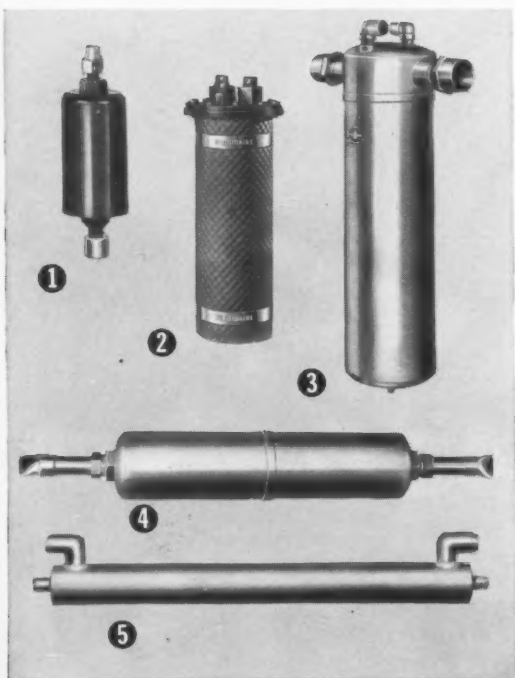


"Fastest selling 'extra' we have is the Frigidaire Quickube Tray—customers see it and want it," says Palmer Gregg, Gaffey Appliance Co. Inc., Herkimer-Little Falls, New York.



"Fine performance guarantees customer satisfaction—that's why we use genuine Frigidaire Service Parts," says James Ward, C & W Refrigeration Co., Oakland, California.

Frigidaire Service Parts mean Good Business For You!



Insure the high quality of your remote installations with famous Frigidaire Installation Accessories

Want to be sure of efficient, trouble-free remote installations? Thousands of servicemen have found that you can eliminate troubles beforehand by using precision-built Frigidaire Installation Accessories.

- 1. Frigidaire Filters and Strainers** provide the ultra-fine screening action needed to really keep dirt out of the refrigeration system. They're made in several sizes—meet all refrigeration needs.
- 2. Frigidaire Oil Separators** insure against the possibility of an oil-starved compressor or an oil-logged cooling unit, thereby protecting equipment and improving operating efficiency.
- 3. Frigidaire Combination Accumulator-Interchanger** combines the features of a heat interchanger with those of a liquid trap—is

especially effective on low-temperature applications.

4. Frigidaire Dehydrators mean positive removal of moisture from refrigeration systems. They're designed for permanent installation in liquid refrigeration lines. Most models are refillable with a special dehydrating agent.

5. Frigidaire Heat Interchangers increase the efficiency of the system by using otherwise wasted refrigeration to cool the incoming liquid refrigerant—greatly reduce the chances of suction line sweating and compressor damage.

- FREE! Big new 1949
- Frigidaire Parts Catalog.
- Send for it today!



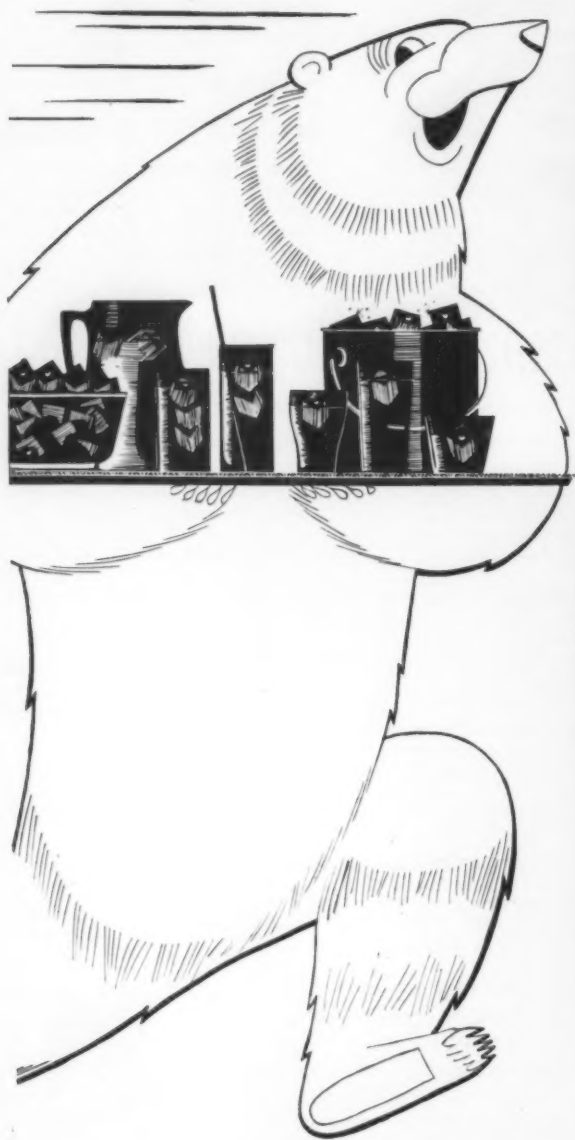
FRIGIDAIRE

Parts and Accessories



- FRIGIDAIRE DIVISION
- General Motors Corporation
- 1390 Amelia Street, Dayton 1, Ohio. In Canada, Lease 12, Ont.
- Please rush my free copy of your new parts catalog—
- "Genuine Precision-Built Frigidaire Parts and Accessories."
- Name.....
- Firm Name.....
- Address.....
- City..... County..... State.....

COMPLETELY **NEW** AND THE CARRIER



ONE OF A GREAT LINE OF

Carrier

DIFFERENT!

AUTOMATIC ICE CUBE MAKER

—THE ONLY MACHINE THAT PROVIDES

1

SO MANY ICE CUBES AT SO LOW A PRICE!

Carrier's revolutionary new simplicity of design eliminates the complicated mechanisms of ordinary ice cubers. As a result, the Carrier Ice Cuber freezes perfect, identical, individual cubes in larger quantities at lower cost — per dollar invested — than any other machine. Its capacity — up to 410 lbs. of sparkling-clear cubes per day!

Your customers are most interested in the machine that makes them the most money — here it is!

2

SUCH SIMPLE OPERATION! SO FEW MOVING PARTS!

Where ordinary machines employ mechanical moving parts to break up cubes from the freezing unit, the Carrier Ice Cuber simply "gravity drops" individual cubes into the storage bin. Throw a switch and it starts, fills the bin and shuts off — automatically. Reach in, take out the needed cubes, and the bin is replenished — automatically. Operation is almost trouble-free.

Your customers want dependability and ease of operation — they get both in this machine built by Carrier!

3

SUCH A MONEY-MAKER IN SUCH SMALL FLOOR SPACE!

This "large-quantity" producer takes up a minimum of floor space. With its smaller 160-lb. storage bin, it occupies only 25" x 24". Just figure what that means! The money this compact, reliable machine saves in ice bills is earned in a space no larger than your customers now use to store cubes purchased outside.

Your customers don't want a space-eater in their places — this handsome unit fits where it's most convenient.

MAIL THE COUPON—GET THE FACTS TODAY

CARRIER CORPORATION, 304 S. Geddes St., Syracuse 1, N. Y.

Send me, without obligation, information about the profit possibilities of the new Carrier Automatic Ice Cube Maker.

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Firm Name _____

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MORE SALES—less fuss

FAST!
AT 60 G-E
WHOLESALE
PARTS DEPOTS
ALL OVER THE U. S.

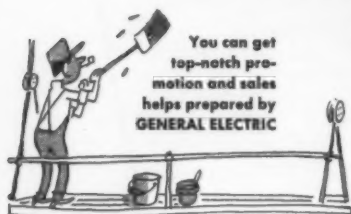
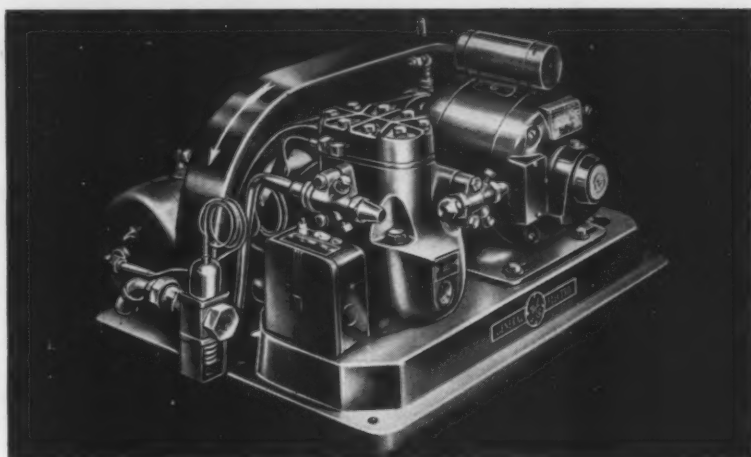
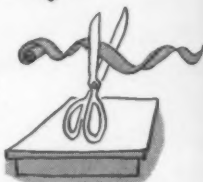


CONDENSING UNITS AND REPLACEMENT PARTS



A depot near
you carries
everything
refrigeration
men need!

No red tape—
with over-the-
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replacement
policy.



You can get
top-notch pro-
motion and sales
helps prepared by
GENERAL ELECTRIC



Advanced design
helps cut power
costs—keeps
customers satisfied.

More parts and
service business
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million G-E
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in service today!



G. E. has top
acceptance—
easier to sell!



G-E Parts Depots handle: G-E con-
densing units, 1/4-10 hp.; genuine
G-E replacement parts for units
1/4-75 hp.; G-E compressor bodies,
1/4-75 hp.; G-E sealed condensing
units for replacement.

G-E dependability
brings repeat
business.



FREE condensed catalogs

General Electric Company, Air Conditioning Department,
Section CR-19, Bloomfield, N. J. Please send me the new G-E
Condensing Unit and Replacement Parts catalogs and your
compressor body selection tables.

I am a ☐ service engineer; ☐ dealer.

Name.....

Company.....

Address.....

City..... Zone..... State.....

**MAIL THIS COUPON
← TODAY**

GENERAL  ELECTRIC

Investigate

GOLD

BOND

ZEROCEL

THE ANSWER TO YOUR LOW TEMPERATURE INSULATION PROBLEMS

HERE'S 7 REASONS WHY

- 1 Odorless**
- 2 Fireproof**
- 3 Will not settle**
- 4 Easier Application**
- 5 Will not absorb moisture**
- 6 Immune to fungus, rot and decay**
- 7 Efficient, "K" factor of 0.24 BTU at 60° F.**



**SEND FOR
FREE BOOKLET
TODAY!**

National Gypsum Co., Dept. I-99, Buffalo 2, N. Y.

Gentlemen: Please send me a FREE copy of the new Gold Bond Zerocel Booklet, "Fireproof Refrigeration Construction."

Name

Company

Street

City..... State.....

Drier THAN THE SAHARA

ANSUL Refrigerants

ANSUL OIL



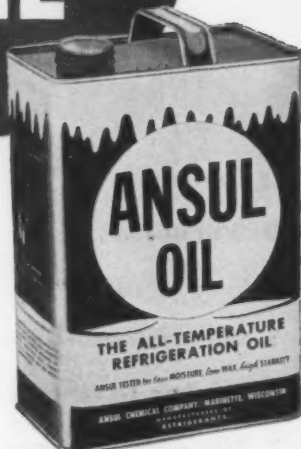
Reg. U.S. Pat. Off.



DRYNESS is a critical requirement in the specifications of ANSUL Refrigerants and ANSUL Refrigeration Oils. To safeguard the dryness of Ansul Refrigeration Products, specially designed container-drying and product-dehydrating equipment is used to eliminate the last trace of moisture.

Moisture in refrigeration systems results in the formation of ice, rust, sludges, and contributes to the development of other impurities and complications. These seriously interfere with the proper operation of a refrigeration system.

ANSUL Technicians have prepared a series of bulletins on the effects of moisture and other foreign matter in refrigeration systems. Copies may be obtained from ANSUL wholesalers or by writing directly to Ansul Research.



ANSUL 150 OIL —

The All-Temperature Refrigeration Oil — is sold by leading refrigeration wholesalers everywhere. (If you require a higher viscosity oil ask for ANSUL 300.)

ANSUL CHEMICAL COMPANY

REFRIGERATION DIVISION, MARINETTE, WISCONSIN

ANSUL SULFUR DIOXIDE, ANSUL METHYL CHLORIDE, ANSUL OIL, KINETIC'S "FREONS"



you're all set...

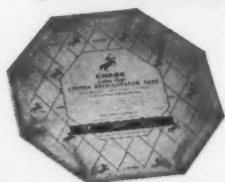
HERE'S the Copper Refrigerator Service Tube that's **EXTRA SOFT!**



THIS *extra soft* tube is easily worked. New, uniform temper makes it easy to bend and flare. It is given automatically controlled anneal which assures clean, bright, oxide-free tube. New end seal keeps tube clean. Fits anywhere tube does—need not be removed until ready for fitting connection. Sizes $\frac{1}{8}$ " to $\frac{3}{4}$ " diameters; in 50' standard lengths.



...HERE'S the octagonal package that's **EXTRA HANDY!**



THIS *extra handy* package prevents two-layer coil of tube from shifting—maximum protection with minimum weight. Saves shelf space. May be *reused* for keeping cut coils clean and identified. Specifications are easily read on a large size label.



...HERE'S a typical Chase Wrought Copper Fitting for joints that are **EXTRA TIGHT!**



CHASE Wrought Copper Fittings expand and contract with the tube . . . joints are permanently tight! They fit the tube *accurately*—there are no inside ridges to hamper refrigerant flow.



ASK your parts distributor for Chase Extra Soft Copper Refrigerator Tube in the extra handy package. And be sure to specify Chase Wrought Copper Fittings...they're not affected by ordinary vibration or pressure. That's the combination for better, longer-lasting connections.

Chase



the Nation's Headquarters for
BRASS & COPPER

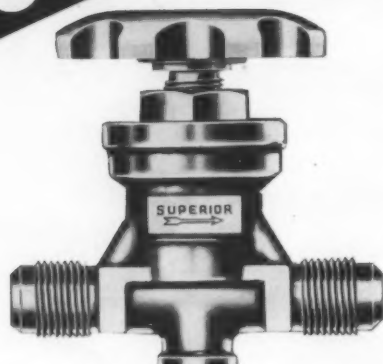
WATERBURY 20 CONNECTICUT

SUBSIDIARY OF KENNECOTT COPPER CORPORATION

THIS IS THE CHASE NETWORK . . . handiest way to buy brass

ALBANY ATLANTA BALTIMORE BOSTON CHICAGO CINCINNATI CLEVELAND DALLAS DETROIT HOUSTON INDIANAPOLIS KANSAS CITY, MO. LOS ANGELES MILWAUKEE
MINNEAPOLIS NEWARK NEW ORLEANS NEW YORK PHILADELPHIA PITTSBURGH PROVIDENCE ROCHESTER ST. LOUIS SAN FRANCISCO SEATTLE WATERBURY (Sales Office Only)

EASY TO INSTALL! NO SERVICE REQUIRED!



EASY TO INSTALL—

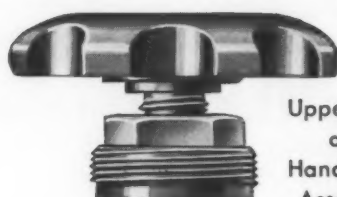
FLARE VALVES incorporate wrench flats for individually tightening flare connections.

SWEAT VALVES have unique sweat connections permitting soft or silver soldering without disassembling.

NO SERVICE REQUIRED—

Scientific lubrication, large bearing surfaces, and polished stem head eliminate wear and assure smooth, easy operation.

Controlled stem travel assures "LIFE-TIME" diaphragm and seat performance.



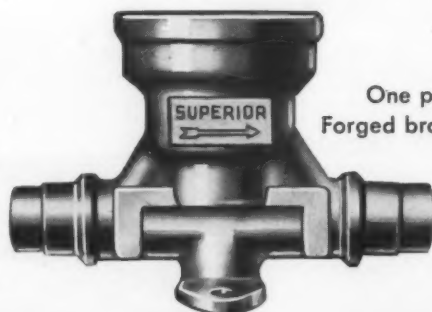
Upper stem and Handwheel Assembly



Diaphragms (Set of Four)



One piece Lower stem



One piece Forged brass body

164

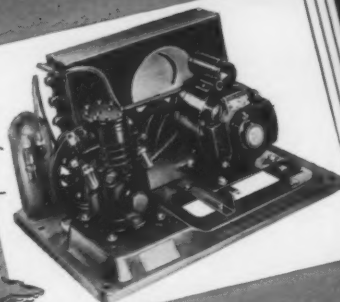
If you haven't a copy of SUPERIOR Catalog R-3, request one from your wholesaler or write us direct.

Superior Valve and Fittings Co.
1509 WEST LIBERTY AVE., PITTSBURGH 26, PENNA.



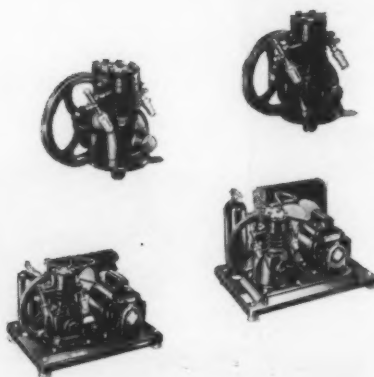
Chieftain

conventional units and compressors for
jobbers, distributors and dealers



TECUMSEH PRODUCTS COMPANY
Tecumseh, Michigan

It's yours for the asking!



Just off the press . . . this new 8-page descriptive catalog will prove interesting to every refrigeration jobber, dealer and serviceman. It contains up-to-date information on the famous Chieftain line of Conventional Condensing Units . . . Smooth, quiet, dependable in operation, Chieftain Conventional Condensing Units can be a source of profitable new business for you. . . Be sure to send for your copy of this great new Chieftain catalog. Today!

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TECUMSEH PRODUCTS COMPANY

TECUMSEH, MICHIGAN

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World's largest independent producer of compressors
and condensing units for the refrigeration industry

Please send me a copy of your new descriptive catalog covering the Chieftain line of Conventional Condensing Units.

Company

Address

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Address to Mr.

P.S.—You can also add my name to your list of ☐ Wholesale Jobbers
☐ Distributors ☐ Dealers ☐ Service Organizations to receive all future literature.

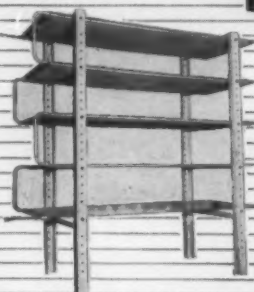
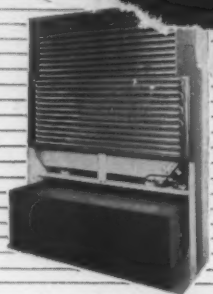
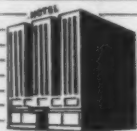
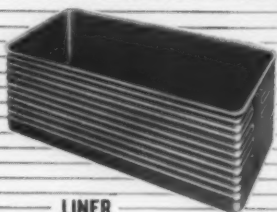


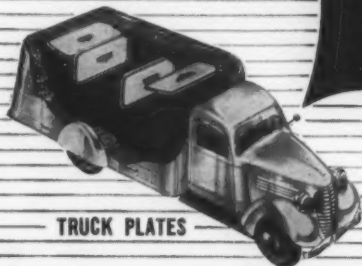
PLATE STAND



PACKAGE UNIT



LINER



TRUCK PLATES

KOLD-HOLD builds better plates for every application

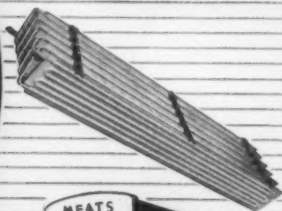
There are two big reasons why you can count on the performance of Kold-Hold Hold-Over and evaporator plates to every refrigerating installation.

FIRST: They are designed and engineered primarily to refrigerate efficiently and economically.

SECOND: They are built with care and to quality standards which assures that each and every Kold-Hold plate does its designed job to the fullest degree of satisfaction. Before any plate leaves the factory it is pressure tested under water and completely dehydrated.

This combination of engineered design and controlled construction is your best guarantee of peak performance.

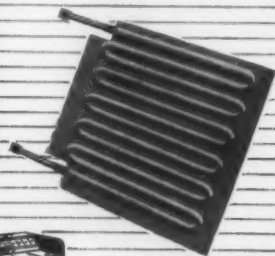
Would you like to know more about how Kold-Hold plates can be used for quick freezing, chilling and holding, short period cooling, or for "Hold-Over" truck refrigeration? Complete descriptive literature is yours free — write today!



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Jobbers in Principal Cities

PROCESSING TRANSPORTATION
protects every step of the way

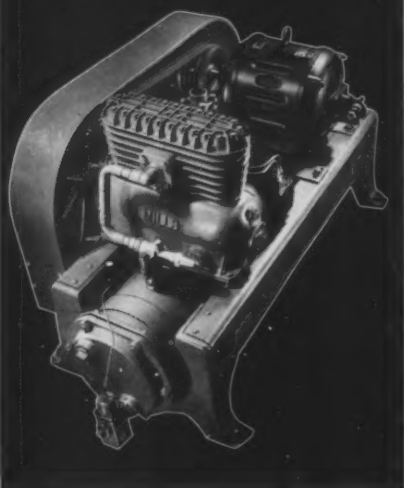
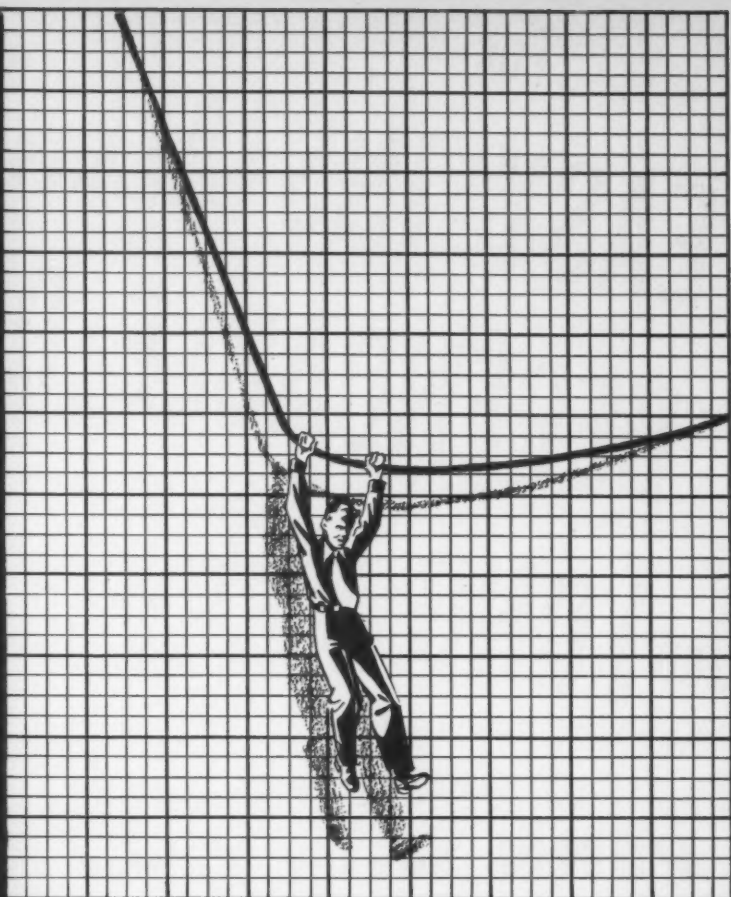
STORAGE

KOLD-HOLD MANUFACTURING COMPANY • 503 E. HAZEL ST., LANSING 4, MICHIGAN

SEPTEMBER, 1949 • COMMERCIAL REFRIGERATION

2

REDUCE
SERVICE
COSTS



Write for new Catalog 204-1

A handy guide to help you
in Condensing Unit Selections



1 Be sure of the cooling or refrigeration application requirements.

2 Select the correct *MILLS Double-Inspected Precision-Built Condensing Unit*.

Preventive care includes checking every application for usual and unusual features, to arrive at the correct capacity condensing unit.

Then install a MILLS Unit that fits the job. They provide sustained maximum output per size and dollar. Quietness is a feature of correct design and precision manufacture. B.T.U. ratings are accurate and reliable. For the extra service that insures profits choose a Mills.

MILLS INDUSTRIES, Incorporated
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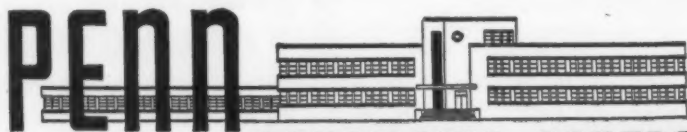
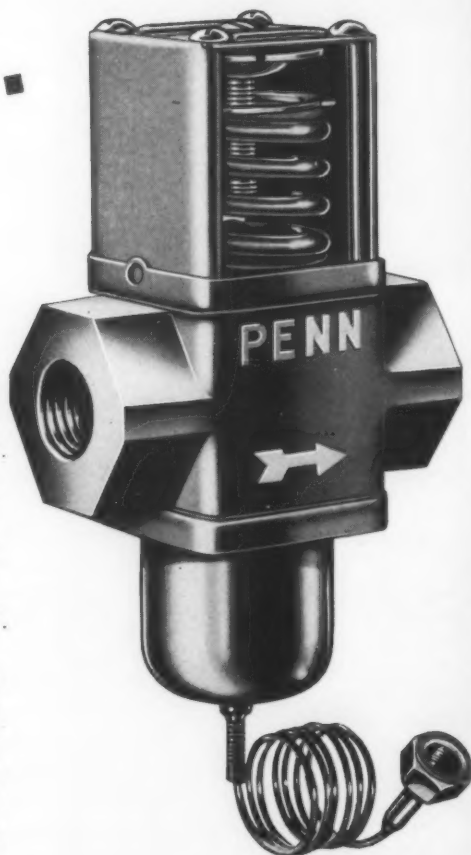
COMPRESSORS and CONDENSING UNITS

For EASY INSTALLATION, DEPENDABLE OPERATION and LONG LIFE....

SWITCH TO PENN Water Valves

It's the simplified design of Penn 246 Water Valves which contributes so much to their dependability and long life. Water is kept away from the range spring and sliding parts. Protected from sedimentation... corrosion... and rust, which cause premature wear and failure, these *better* valves assure dependable performance through the years.

Penn offers a complete line of water valves for all types of refrigerants. Sizes from $\frac{3}{8}$ " to $2\frac{1}{2}$ " I.P.I. Flanged and threaded models. Brass bodies are standard on $\frac{3}{8}$ ", $\frac{1}{2}$ " and $\frac{3}{4}$ " commercial types. For dependable service which means customer satisfaction switch to Penn Series 246 Water Valves. See your jobber or write now for full information. **Penn Electric Switch Co., Goshen, Ind.** Export Division: 13 East 40th St., New York 16. In Canada: Penn Controls Ltd., Toronto, Ont.



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES

RTU

News • Laws • Trends

Quick Cooling Aids Quality In Sweet Corn

UNLESS freshly harvested sweet corn is pre-cooled before it is loaded into refrigerated trucks, a very large quantity of ice is required to get it to market in good condition, according to tests conducted by Morris Liebermann and H. A. Schomer, scientists of the U. S. Department of Agriculture.

Keeping sweet corn "sweet" from farm field to city market depends largely on low temperature. When picked at correct maturity, the corn has a high sugar content. This, however, turns to starch unless the corn is quickly cooled—ideally just above freezing—and held at the low temperature. The common practice now followed does not provide cooling until the corn is in transit to city markets in refrigerated trucks.

Studies by the USDA men indicate that (1) icing practices commonly used in transit do not cool the corn sufficiently to maintain top quality; (2) cooling to desirable temperatures in transit requires nearly six times as much ice as is now used. Pre-cooling would be less expensive, and more effective.

Milk Cooler Firms Seek Industry Data

AT THE last meeting of the Milk Coolers product section of Refrigeration Equipment Manufacturers Association, much discussion centered around the statistical program of the section and what steps could be taken to encourage the participation of other manufacturers of milk coolers in reporting monthly data. It was pointed out that no data on milk coolers have been collected by the U. S. Department of Commerce since 1942, and that REMA now is the only source for industry statistical information. A campaign was undertaken to interest non-REMA manufacturers in cooperating with the group.

Refrigerated Self-Serve Flowers On Way

REFRIGERATED self-service display cases for selling fresh flowers from California and Hawaii will blossom out in about 100 leading department stores across the country in September, the *Wall Street Journal* reports from Los Angeles. California flower men hope the scheme will be the forerunner of many such plans to sell more of the state's big crop.

Officials of the Los Angeles concern, Flowers of Hawaii, Inc., which tried the idea in an Indianapolis "guinea pig" store, say their plan is to make flowers as

easy to buy as handkerchiefs or socks. The display cases will be about 4½ feet high and just about as long and deep, with slanting glass-enclosed shelves open at the top so that customers can help themselves. Orchids, various Hawaiian foliage, and California flowers in season (such as gardenias and camellias) will be featured.

Stores will order daily, to keep losses at a minimum, and the flowers will be shipped by air express. If the flower-men have their way, the housewife may soon be buying her orchids in her favorite grocery story along with the week's food supply.

Historic Bank Gets Modern Cooling Plant

THE South Carolina National Bank, of Charleston, has been doing business since 1834. One of the very few banks that managed to survive the war between the states, it is still going strong today. The bank building itself goes back even further into history than the institution it now houses—it was originally built for the Second Bank of the United States during the presidential terms of James Madison and James Monroe in 1816 and 1817. The Bank of Charleston bought the building in 1834 and has occupied it ever since.

The recently installed air conditioning system is an expression of the bank's 115-year-old policy of giving its customers the best possible service. The 30-ton Marlo evaporative condenser and two floor-type units were installed by the Quattlebaum Electric Co. of Charleston.

Hot Dog Days Are Over For This Pooch

THE hottest dog in Jacksonville, Fla., is a cool canine now. No more hot dog days for him. During a recent hot spell in the Florida city, a heavily furred 250-pound St. Bernard was reported dying from the heat. One of the local newspapers ran a story about his plight—and things started happening. A refrigeration company sent over an air conditioning unit and installed it on his owner's glassed-in back porch. That did the trick; he isn't moving off the porch, now a cool 70 degrees, into the steaming 95 degree temperature outdoors. One offer of help came from a 3-year-old girl, who wanted to fan the big dog during the heat wave. But he doesn't need any fanning now—he's air-conditioned.

Where Buyer Can Meet Seller

A UNIQUE purchasing research project aimed at placing prospective buyers of all types of commercial and industrial equipment in contact with the sources of supply for these items of merchandise is being conducted by the Purchasing Research Division of the Purchasing Advisory Guild, Woolworth Building, New York City.

This project extends its services without charge to purchasing representatives of U. S. business firms, foreign firms, foreign government purchasing commissions, purchasing agents of all U. S. cities and towns with populations of 10,000 or more, and purchasing agents in all State Departments of the 48 states, all of whom are constantly seeking all types of raw materials, equipment, semi-finished or finished products, machinery, apparatus, services, etc., from reputable supply channels.



Some form of visual selling such as the sound slide projector illustrated here, may be just the thing you need to give your merchandising program that little added lift which can spell the difference between profit and loss in a tightly competitive market.

THE YOU IN VISUAL SELLING

If you are seeking a new selling tool which will put you one jump ahead of your competition, it may well pay you to investigate the rapidly developing field of visual merchandising

By Lyne S. Metcalfe

YOU say you're looking for a new selling tool which will give you just a little competitive edge in the steadily tightening market which lies ahead? Then visual selling—whether by movies, slide films, or separate slides, and whether sound or silent—may be just the answer to your prayers.

The appeal of illuminated, projected pictures, whether in or out of the theater, is virtually universal. The dramatic interest which such pictures can and do bring even to a somewhat otherwise drab salesman's story is being utilized with continually greater effect in the refrigeration field.

Films long have been used for the training of salesmen, the schooling of service men, and the study of manu-

facturing processes. Now they are being increasingly employed as a means of demonstrating and selling refrigeration and air conditioning equipment in the showroom, at the desk side, and in the home.

As refrigeration lines broaden and the field is expanded to include new or improved products with which the prospective consumer must be made acquainted, it is expected that the aid of visual selling media will be enlisted more than ever before. Consideration of what is being done along this line, and how it is being accomplished, should be of current interest to every individual charged with the responsibility for merchandising this equipment.

What advantages are offered the

selling forces of the industry by the use of visual aids in prospect and customer contacts?

Especially in the case of heavy or not easily portable products, or in the case of more or less complicated ones requiring detailed explanation and demonstration, films have proved their ability to do an outstanding job in aiding salesmen. As a result, the experience gained through many years of using films to help train salesmen, the numerous improvements in picture techniques, and the simplification of equipment required to show them, all are being combined to make films, slides, and other visual aids more and more adaptable to the purpose of direct-to-customer selling.

For years sales managers have

sought some means of making certain that the carefully planned sales talk, the answers to prospects' common questions, would be delivered uniformly by all the salesmen on the staff. But in many instances mere pep talks fail to accomplish this end since, once the seller is out on his own in the presence of the prospect, he is apt to follow the natural human instinct of improvisation or diversion. Especially is this true where he faces the negative type of prospect who gets him "off the track".

Trains Salesmen, Too

That is one great advantage of the visual presentation, no matter what type it may be. It tends to keep the company's salesmen "on the track" since it cannot be changed in arrangement or continuity. What is *said*, if the presentation be with sound, is always what the home office has approved; what is *shown* is beyond the power of the salesman on the spot to change.

If the picture is of the silent type, the salesman is provided with a properly arranged and "patterned" pictorial guide with which to give his sales talk, or which serves to implant the basic selling ideas for discussion after the showing.

Makes Every Minute Count

Because he hears and sees the story presented in the right way, the salesman improves his technique by vicarious instruction.

Films of most types are as easily subject to revision as a looseleaf notebook whenever the product or service or sales story changes. This flexibility makes the visual selling aids additionally valuable in circumstances where it is necessary to make changes in product, services, policy or prices, from time to time or season to season.

It is almost a generally accepted principle in postwar selling, and especially in the types of markets the trade confronts today, that the salesmen, more than ever, must make each golden minute of the prospect's attention count. It has been estimated on the basis of millions of training film showings during the war, official or otherwise, that visual aids reduce the time required to get over a series of connected facts and ideas by as much as two-thirds.

More than that, visual aids of any

"Air Conditioned" Candy Boosts Druggist's Sales

IF INSTALLING a refrigerated candy display case won't solve your summertime candy merchandising problems, try air conditioning your complete store. This may sound a little silly, but it pays out. Witness the case of Walter Blankenship's drug store in Nashville, Tenn.

Prior to the installation of air conditioning equipment which keeps this establishment at a comfortable 78 F the year around, druggist Blankenship was forced to close down his profitable self-service candy department each summer.

Since his neighborhood drugstore experienced a large and steady demand for bulk candies, candy bars, and package chocolates, owner Blankenship attempted to solve the problem by installing a refrigerated candy case. Looking over the market, however, he could not find a refrigerated candy case large enough to accommodate the wide range of chocolate-covered candies normally carried by the store, and the expense of buying two such units seemed prohibitive in relation to the benefits that would be derived.

Seeking an alternative solution to the problem, Blankenship decided to air condition the entire store. A 15-ton package unit was installed, with cool air distributed through small ducts furred into the ceiling on either side of the store, and a special duct constructed to deliver a blast of chilled air immediately over the large self-service candy department. The result: immediate restoration of the store's normal candy sales volume, even during the hottest months.

Boxed chocolates, which were most susceptible to heat damage during the summer months in the past, are stacked on a flat shelf at eye level at the top of the fixture. Here, of course, the coolest flow of air strikes, and with the air conditioning system in continuous operation the store has found no evidences of melted chocolates or sticky candy which would cause complaints.

Cost of the air conditioning system was only twice the total expense which would have been required for two refrigerated candy display cases, according to Blankenship, and in addition to increasing candy sales by putting them on a year-round basis, the air conditioning system has produced notable sales results in all other departments in the store.

kind make the seller's call something more than casual. They introduce a note of novel interest into his call or his call-back that usually is welcome.

Furthermore, the salesmen who must of necessity sell more than one human factor or official in a given prospect's organization, can more easily bring them all together in one sitting when pictures or other visual aids are used in the contact.

With respect to films as direct sell-

ing tools, it may be said that the slide-film has proved of great value in this field, especially where sound or commentary is provided on accompanying records. It has been valuable, that is, where the product or service being sold does not require that anything be seen in *motion* to be clearly understood.

Here, however, a word of caution should be interjected. It would be de-

Continued on page 67

Portrait of

A MODERN RESTAURANT

From bulk food storage rooms to individual serving stations, this ultra-modern restaurant uses refrigeration at every step

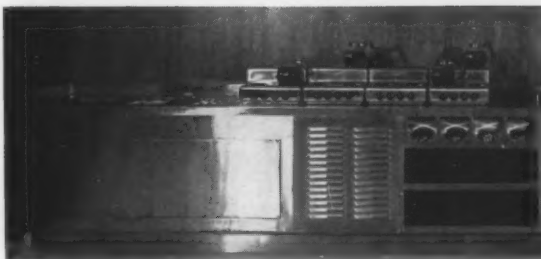
KEYNOTING the essential function of commercial refrigeration equipment in the modern food service establishment, the new Schrafft's store in New York's Rockefeller Center, embodying what is claimed to be the largest service restaurant in the world, utilizes refrigeration equipment at every stage from food preparation to garbage disposal.

This ultra-modern establishment, capable of serving more than 13,000 meals a day, effectively employs refrigeration and air conditioning equipment to achieve the last word in restaurant management, service effi-

Continued on page 50

A battery of three of the nine walk-in coolers in Schrafft's Rockefeller Center restaurant. These three open off the main kitchen. Three others are in the receiving department, one for garbage storage. Another is used for candy storage and there is also one in the bakery.

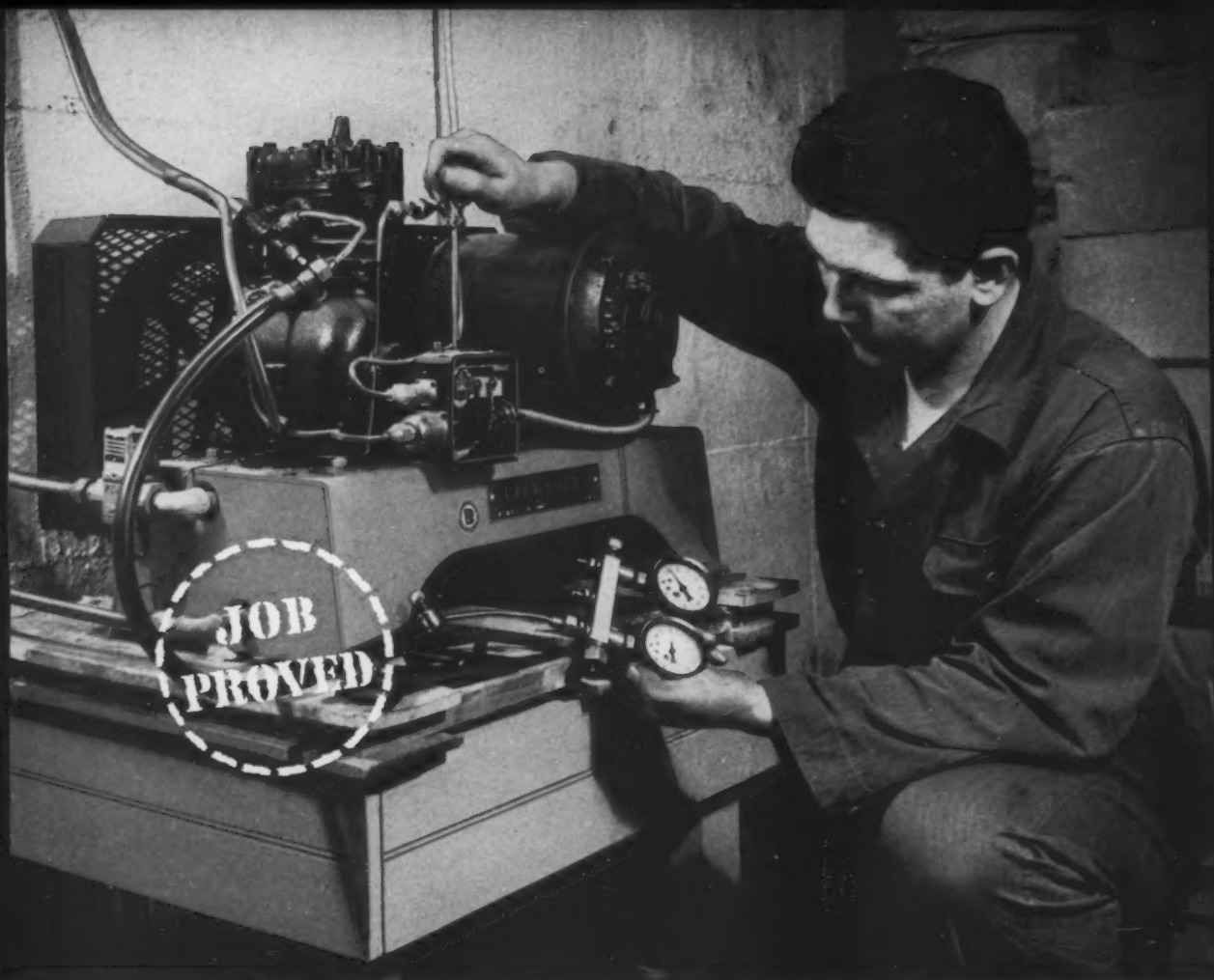
A special service station at Schrafft's. Refrigerated section at left for convenient serving of milk and butter is matched by heated section at right (not shown).



Sandwich mixes are kept chilled in the inset trays of this sandwich station, while ample refrigerated space below holds reserve supplies.



Cooling also is utilized for employee comfort. Note air conditioning outlets in ceiling to moderate temperatures behind this steam table.



SUNISO CUTS SERVICE CALLS

Distributor Switches to Suniso Oil, Now Makes Only Routine Inspections

Servicing units in the retail outlets of a big dairy was proving costly for a refrigeration equipment distributor. Gum and sludge formed, progressively lowering the efficiency of the compressors and increasing the load on the motors. As this condition built up, the belts slipped and eventually wore out. Finally, it became necessary to overhaul the compressor units.

Acting on the advice of a Sun Engineer who was called in to study

the problem, the company changed to a policy of charging and servicing the units with Suniso Refrigeration Oil. In 10 years, no mechanical difficulty traceable to lubrication has developed in these units, and service calls have been reduced to ordinary routine inspections.

Such fine performance explains why Suniso Oils are the predominant choice of original equipment manufacturers in the refrigeration and air-conditioning industry.

The different grades of Suniso Oils have extremely low pour points and low wax-separation points. All have exceptionally high dielectric strength and high resistance to chemical change when mixed with Freon or any other modern refrigerant.

Ask your Suniso jobber for a free copy of the illustrated booklet "Lubrication of Refrigeration and Air-Conditioning Equipment" or write Department RI-9.

SUN OIL COMPANY • Philadelphia 3, Pa.
In Canada: Sun Oil Company, Ltd.
Toronto and Montreal

SUNISO REFRIGERATION OILS

"JOB PROVED" THROUGHOUT THE INDUSTRY



Part 1

A PRACTICAL STUDY OF THE CAPILLARY TUBE

By Joe Ammons

Editor:

I realize there is nothing new or startling in an article on capillary tubes. However, I have found in traveling about the country that there is no other refrigeration component which is so little understood or which represents such a bug-a-boo to the average service man than the capillary tube.

I have based this article entirely on my own studies and experience with the metering tube. Since I have tried to cover all phases of capillary installation and service there may be some parts of the article which will be old stuff to many of your readers. However, I believe there will be some useful material for everyone.

As for myself, I have been knocking around in the refrigeration, electrical and radio business for about 15 years. I started in the refrigeration field rebuilding sealed units, which work I continued for about 5 years. Surviving this, I have worked in practically every field of refrigeration from service for a large mail order house to ammonia plant operation and locker installation. A couple of years ago I was part owner of a small plant manufacturing ice cream cabinets.

At present I am Service Manager for the Swift and Co. Ice Cream Plant in Amarillo, covering a territory including the panhandle of Texas, part of Oklahoma, and the state of New Mexico.

Joe Ammons

THE definition of a capillary tube is a small tube with a very minute bore. This definition hardly applies to some of the tubes now in use on refrigeration systems, as many of these have an inside diameter of .050 or larger.

These tubes are also sometimes called restrictor tubes, which is no more accurate since they readily allow, or even help, the flow of a liquid refrigerant through them.

A more accurate name is metering tubes, since their true function is to accurately control the amount of refrigerant which is allowed to flow from the high to the low side in a refrigeration system over a given period of time. However, to avoid confusion, we shall continue to call these tubes capillaries in this article, since that has become the custom.

Cycle of Operation

At the beginning of the "On" cycle in a capillary system all the liquid is in the low side. If the unit is correctly charged the suction line will frost back almost to the compressor.

If we were to install a sight glass tube from the top to the bottom of the condenser so that we could watch the liquid level inside the condenser we would note that after running a few minutes the liquid level had risen considerably inside the condenser while the frost on the bottom line had disappeared. This would indicate that the compressor was removing the refrigerant faster than the capillary was allowing it to return to the evaporator.

As the suction pressure drops we would notice that the liquid level inside the condenser also drops. If the unit is allowed to run long enough it will eventually reach the point where there is only a trace of liquid left in the high side, and the suction line is again frosted back almost to the compressor.

The temperature and pressure inside the evaporator will fall very slowly after this point is reached, therefore the system should have completed its cycle before reaching it. A good practice is to calibrate the tube so that the second frost back occurs about five degrees below the lowest temperature the unit will be required to reach.

A capillary system which has the second frost back set too far below the necessary point will allow a high liquid level to collect in the condenser, causing the unit to work under higher head pressures than necessary, and in extreme cases will cause the unit to jump and buck.

An overcharge of oil or refrigerant in the system will also cause jumping or bucking as well as high head pressure.

During the "Off" cycle the liquid in the high side will continue to flow into the low side until the unit starts or the pressures are balanced.

This is illustrated in the accompanying head pressure-back pressure chart (Fig. 1). It will be noticed that the head pressure falls, and the back pressure rises much faster during the first five minutes than it does during the rest of the off cycle. Although the time may vary with different units there will always be a point which occurs shortly after the unit stops, when the pressure tends to level off and it usually takes an hour or more to reach the point where both sides are the same.

Charging the Unit

The refrigerant charge in a capillary system is extremely critical. The system must be fully charged, since an undercharge will allow oil to be trapped in the evaporator, which will result in poor refrigeration and wear or damage to the compressor. An overcharge is equally dangerous as it will cause damage to the compressor or other parts of the system.

A good method of charging these systems is to add refrigerant slowly until the suction line frosts out to

the compressor, and then purge back until the frost line is three or four inches back of the compressor.

Purging should be done very slowly and if possible the refrigerant should be taken out of the low side. The gas may be purged into a bottle of oil or a very cold refrigerant drum.

As soon as the frost line begins to back off, the unit should be stopped and the pressures allowed to level off. This procedure should be repeated until the frost line begins to appear 3 or 4 inches back of the compressor when it is started.

The unit should be charged and checked thoroughly before any attempt is made to calibrate the tube.

Calibration

The amount of refrigerant of a fixed viscosity which a capillary will deliver over a given period of time is determined by multiplying the size of the bore in the tube by the velocity of the liquid passing through it.

Since the bore cannot be changed after it is once fixed, any calibration of the tube must be made through a change in the velocity. The first rule here is: the longer the tube, the lower the velocity. The second rule is that any winding, crimping or curling of the tube also will lower the velocity. The smaller the diameter of the winding the more it will decrease the velocity.

The length and number of windings necessary to obtain the proper calibration of the tube will vary with

different units. Also the larger the inside diameter of the tube the longer it must be or the more windings it must have. It is usually a good idea to install a straight tube first and then to wind it if the velocity is too high.

With .031 tube a length of about 5½ to 6 feet may be suitable for domestic boxes, with a slightly greater length for the lower temperature jobs.

After the unit has been properly charged it should be allowed to run until it reaches the second frost back point. If it reaches this point at too high a temperature the tube should be wound. This should be done slowly and checked frequently.

A good procedure is to take about six turns in the tube around a piece of 1/8-inch welding rod, then allow the unit to run a few minutes to see if the frost line backs off. Continue to wind it until the frost line backs off, and then let the unit run until the frost appears again.

If the evaporator temperature is still too high, the tube should be wound again—and so on until the proper point has been reached. After this the thermostat may be set and the unit is ready for use.

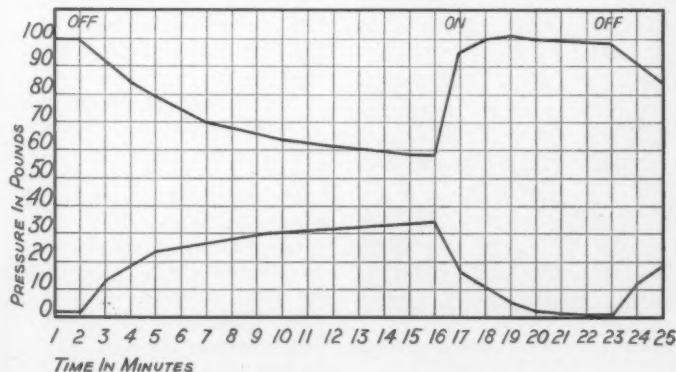
The Balanced System

A capillary system is a completely balanced system. Any change in any part of the system is likely to affect the capillary.

This is especially true of the com-

Continued on page 67

FIG. 1—Typical head pressure-back pressure curves on a capillary unit.



SEALED UNIT SERVICE POSES TRAINING PROBLEMS



Sealed unit students at the YMCA Trade & Technical School work at various phases of their practical training in hermetic refrigeration unit repair.

Editor's Note: The increasing use of hermetic refrigeration units in all types of systems inevitably raises a service problem. Here is how one trade school is meeting this challenge



Lathe operations include opening of sealed unit. Student watches cutter bite into metal.

LAUNCHING a new course in sealed unit refrigeration servicing and repair has its problems. The administration and teaching staff at the YMCA Trade & Technical School, a nonprofit organization in New York City, discovered this when they began their first hermetics course this summer.

With students demanding training in sealed units and manufacturers shifting almost entirely to hermetically sealed units for domestic boxes, the course was listed as a "must" in the school curriculum.

The initial problem was interior. As is the case with any new course, the staff underwent indoctrination with Department Head William Yeager leading the way. All of the teachers are veterans in the refrigeration field, several of them experts on hermetics, but teaching sealed unit

work is naturally a bit different.

The next step involved juggling of space in the department. Room had to be made for a special welding section, grinding benches, and two lathes. Space was required for a



Electricity is a vital part of instruction. Sealed unit student examines motor brushes.

baking oven and a water tank to test the units. Instructors worked nights to revamp the layout of the department.

The final step, prior to opening classes, was to provide suitable laboratory equipment for student practice. More than thirty sealed unit type boxes, some new and some used, were purchased and made ready for experiment.

Due to the completely new course, the first class was limited to eighteen students. Subsequently, enrollment will be increased to operate at full capacity. Director Louis L. Credner had the feeling that such a course should be brought along slowly.

Credner estimates that some six months of preparation plus the full time work of two instructors was needed prior to the beginning of the course. The greatest time consumer



Welding is important in sealed unit repair. Students practice welds on angle iron first.

was in preparing and installing instructional equipment.

The course plan includes instruction in welding, lathe operations, opening the units, disassembly, reassembly, resealing, testing and servicing.

Students cannot qualify for instruction unless they have completed both primary and advanced courses in refrigeration or can show the equivalent of experience. The total length of instruction is 180 hours: the theory phase of the course is 36 hours and the practical work covers 144 hours of instruction.

Having met and mastered many of
Continued on page 50

Here, students at the YMCA Trade School use portable grinders on sealed units.



Do Your Bills Cost You Business?

SLIPSHOD billing procedure may be costing your company more good will—and cold, hard cash—than you realize!

Far too many commercial refrigeration and air conditioning firms regard this important business function too lightly. "So a customer owes us money, so we send him a bill," is their attitude. And they don't once stop to consider that the way in which this billing is handled may well have an important bearing on the success or failure of their business.

Take the simple matter of addressing the bill, for instance. A routine job, to be sure, that can be handled by any stenographer. But if it isn't handled properly it can be a source of considerable irritation and ill will upon the part of your customers.

Few things, for instance, irk the average man more than seeing his name misspelled or prefixed by the incorrect initials. And an incorrect address not only will frequently delay delivery of your bill but also is likely to aggravate the customer who receives it—especially if it has been "opened by mistake" at the address where it was initially delivered.

Any incorrectly addressed bill is potentially bad business for the dealer who sends it.

The only safeguard against this ever-present danger is an increased accent on *accuracy* all the way along the line. Your truck drivers must be careful in making out delivery slips; your bookkeeper should be sure to make correct entries, and after addressing a bill should cross-check it with her entry for any possible mistakes. One company we know even has another employee recheck every bill made out by the bookkeeper.

Next in importance to addressing your bills 100% correctly is the proper timing of their mailing. They should be sent *immediately* after the close of the month's business, another point on which many refrigerator firms are sadly lax.

The obvious reason for this emphasis on promptness is that in many cases your customer's budget may be strained by the usual accumulation of first-of-the-month bills. He may not have enough money on hand to pay all bills promptly. In such instances it is usually a case of "first come, first served," and the alert dealer will time his billings with that thought in mind.

Occasionally a dealer may be plagued by a deadbeat who runs up a big bill and then deliberately moves away without paying it. In such cases the dealer may send bill after bill, with the postoffice forwarding them to his new address, only to have them consistently ignored.

In such a case you might want to sic a collector on the culprit—if only you knew where he had moved. You *can* find out, providing he has left a forwarding address with the postoffice, simply by mailing the bill (don't use an open-faced envelope, though) to the address shown on your books. Send the letter registered mail, requesting a return receipt to be signed only by the addressee and requesting also the address at which the envelope was delivered. Total fee for this combined service is 56 cents in addition to the regular first class postage, and the return receipt will be accepted in the courts as *prima facie* evidence that the bill was delivered to the addressee.

CONTRACTORS

News • Activities • Plans

Concerned About Customer Credit? These Suggestions Will Help You

SOUND tips for commercial refrigeration and air conditioning contractors to follow in determining the credit status of potential and actual customers were given to members of the Refrigeration and Air Conditioning Contractors Association of Chicago at a recent meeting by H. E. Kroll, regional specialized report manager of Dun & Bradstreet, Inc.

Kroll's observations were made on the basis of the condensed experience of 70 different lines of industry, calculated by Dun & Bradstreet from the thousands of statements submitted to it annually.

Three Fundamental Principles

Because his statements contain an unusual amount of information which contractors can relate to both their own businesses and those of their customers, a condensation of Kroll's remarks is given below:

"In the analysis of the financial condition of your customers as a basis of credit, there are three fundamental principles to understand. Any concern which is in a sound financial condition will be found to have followed these principles, knowingly or unknowingly, and any concern in unsound condition will be found to have violated one or more of them, knowingly or unknowingly, or, perhaps, unavoidably. Here are the three fundamentals:

Fixed Assets vs. Net Worth

"1. A company's investment in fixed assets should be in proper relationship to its tangible net worth. Simply stated, this means that a company is unwise to invest too much of its capital in bricks and mortar and in machinery and equipment. If it does, it runs the risk of not having enough money left over with which

to finance its current expenses for payrolls, merchandise and the multitudinous other costs of operating.

"What should this relationship be? There is no one answer. At one extreme are such lines of business as wholesalers of dry goods, whose investment in fixed assets should not exceed 5% or 10% of the tangible net worth. At the other extreme, the utilities such as railroads and electric light and power concerns frequently have fixed assets equivalent to 200% or even 300% of their net worth. Most concerns, however, should have around 35% and preferably not over 50% of their capital represented by fixed assets.

Working Capital vs. Sales

"2. A company's working capital should be in proper relationship to its annual sales. Simply stated, this means that it takes money to do business and that while \$5,000 might be enough to finance a small butcher shop comfortably, it takes a lot more working capital than that to finance General Motors Corporation. In other words, there is a relationship between the amount of working capital available to a company and the amount of sales that it can safely handle.

How Much Working Capital?

"What should that relationship be? Before presenting an answer, I should define working capital which technically is the difference between current assets and current liabilities and which in general, but sometimes inaccurate words is the amount of a company's total invested capital left over after it buys its fixed assets. Working capital is that part of a company's total invested capital with which it can finance its current operations, as contrasted with that part

which is invested in fixed assets.

"As to the normal relationship between working capital and annual sales, again there is no one answer. Lines of business with rapid inventory turnovers and quick collections, like restaurants, produce dealers, and cigarette wholesalers, can safely finance \$20 or more annual sales for every \$1 of working capital. Lines characterized by slower inventory turnovers and slower collections, like installment furniture retailers, need more working capital in relation to sales and generally cannot comfortably handle more than \$3 of annual sales for each \$1 of working capital.

"Overtrading" Has Pitfalls

"Most lines of business, however, have a relationship of between \$4 and \$6 of annual sales for each \$1 of working capital. When a company tries to handle more business than its working capital will safely support, it 'overtrades' and becomes a less attractive credit risk because it is straining its resources. This is true even though 'overtrading' may occasionally be highly profitable while it lasts.

"3. A company's merchandise should not be greater than its working capital. Space does not permit a complete explanation of this third fundamental but, briefly, it arises from the mathematical truism that the moment an inventory exceeds the working capital, it immediately follows that cash and receivables no longer cover the current debt. If times become tough, those concerns having cash and receivables covering their current debts will find themselves with sufficient cash on hand and coming in to meet their maturing debts but those concerns not in this desirable condition will be short of cash and will be directly dependent on sales of merchandise at a time when customers will not want to buy but will instead be concentrating on liquidating their own inventories.

Keep Inventory in Check

"Hence, the fundamental desirability of keeping inventories lower than working capital at all times. Actually, in practically every line of industry in which merchandise is a factor (as contrasted with service lines such as truckers and laundries) the merchandise usually amounts to not more than 65% of the working capital. The danger point, which should not be

exceeded regardless of any temptation or apparent justification for doing otherwise, is 100%.

"Many credit men rightfully watch other relationships carefully, such as the ratio of current assets to current liabilities (called the current ratio) and the ratio of debt to net worth but these are not basic relationships. If the current ratio is too low or if the debt seems too heavy, it will invariably be found that these unfavorable relationships are not causes of an unsound financial condition but are results of something else that is basically wrong and that the cause will be found in a violation of one or more of the fundamentals outlined here or, sometimes, slowly turning receivables or inventories.

Industry Credit Problem

"You refrigeration and air conditioning men have a special problem in extending credit. When you install a job, you increase your customer's fixed assets and reduce his working capital. If your job is a large one, it may change his financial condition from a sound one to an unsound one and as a result, you may have difficulty in collecting from what was originally a desirable customer.

"May I suggest that in such a case it would be advisable to compile a 'giving effect' financial statement of your customer, which will 'give effect' to the installation and thus show beforehand what the condition will be after the job is completed? If this condition appears unsound, it may be desirable to have the cash for the job placed in escrow or to persuade the customer to arrange adequate financing for the installation.

"The basic relationships discussed here are calculated each year for 70 different lines of industry by Dun & Bradstreet from the thousands of statements submitted to it annually. Together with other relationships they are published each year and distributed without charge as a public service to those interested in the subject."

ILLINOIS SERVICEMEN DEFEAT TAX BILLS

Largely through the efforts of the Illinois Association of the Refrigeration Service Engineers Society, several tax measures proposed in the re-

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"Customer Conditioning" Pays Off

EFFECTIVE use of air conditioning to step up store traffic and increase sales volume has been made by the Barnett Paint Store in Crowley, La., in its wallpaper display room.

Merchandising wallpaper, like other phases of the home furnishing business, is in many cases a time consuming operation, with the salesman doing his level best to help a perplexed husband and wife make the necessary "family decision" in selecting just the right color and pattern.

The window-type Frigidaire air conditioner which the Barnett store has installed in its wallpaper department acts as the salesman's "silent partner" in his merchandising efforts by affording a comfortable atmosphere in which the customers can make these important decisions. Barnett reasons rightly that a "cool and collected" customer is more able to make a quick and satisfactory selection of wallpaper than is a perspiring and fidgety one.

In addition to its prime job of "customer conditioning," the air conditioning unit also protects wallpaper stocks and samples from spoilage and soilage by providing better control of humidity and filtering out the dust and grime in the air.

Barnett's wallpaper display room is about 18 feet long, 9 feet wide, and 11 feet high. The 1/2-hp Frigidaire room air conditioning unit was installed near the ceiling in an out-of-the-way location. As there was no window available, an opening was cut in the wall for the conditioner.

Completely self-contained, this unit does not require any connections other than an electrical plug-in. It measures only 13 1/2 inches high, 26 inches wide, and 29 1/2 inches deep. Refrigerated by a hermetically sealed "Meter Miser" compressor of rotary type, the unit circulates cool, filtered air at a rate of 200 cfm. Angled grilles direct the flow of this air throughout the room.

ABOUT People

T. C. Werbe, president of Lynch Corp. since its incorporation in 1928,



Werbe



Pendergast

has been elected chairman of the board of that company; **M. H. Pendergast**, formerly executive vice president and general manager, has been elected president to succeed Werbe; and **J. P. McCarthy**, director of manufacturing for the Ohio division, was elected a vice president in charge of manufacturing in all of the company's plants.

Lynch manufacturers refrigeration and air compressors, packaging machines and glass forming machinery, with plants in Toledo and Defiance, Ohio, and Anderson and Marion, Ind.

In executive changes at Norge, **Howard E. Blood** has been elevated



Blood

to chairman of the board of the division, while retaining his post as president of the Detroit Gear division of Borg-Warner Corp. **George P. F. Smith**, a Borg-Warner vice president, has been named president and general manager of Norge. **John A. Under-**

wood has been appointed vice president in charge of sales, and **H. L. Clary** remains as Norge's director of sales. Smith most recently has been assistant to G. A. Shallberg, Borg-Warner executive vice president; Underwood has been with Montgomery Ward, Manning, Bowman & Co. and Johnson & Johnson.

Walter Schmidt has been appointed refrigeration engineer for Koch Refrigerators, division of Koch Butchers' Supply Co., North Kansas City, Mo. He will be responsible for the design of refrigeration systems, laboratory testing, and specifications. Most recently Schmidt has been assistant manager of Anheuser-Busch's ice cream cabinet plant in St. Louis; he also has held posts with Deep-freeze and General Electric Co.

Don D. Hilke has been appointed general sales manager of Anderson & Wagner, Inc., Los Angeles, manufacturer of Everfrost soda fountain and luncheonette equipment. According to Mark Anderson, president, Hilke will supervise all sales and merchandising for the company. Hilke has had 30 years' experience in the soda fountain, drug, restaurant and hotel equipment fields. He was with Weber Showcase & Fixture Co. for 20 years and prior to that with Liquid Carbonic.



C. Milton Wilson has been appointed sales manager of Anemostat Corp. of America. Wilson, formerly manager of sales of Ingersoll division of Borg-Warner Corp. was also associated for many years with Clyde R. Place, New York consulting engineer.

Fred H. Pillsbury has been appointed vice president in charge of operations of Century Electric Co., St. Louis. Most recently he was the company's executive engineer. Pillsbury, 40 years old, joined Century in 1927 after graduation from Washington university, St. Louis. He became a member of the board of directors eight years ago. Pillsbury is a son of Edwin S. Pillsbury, one of the founders of Century Electric.



Rollin H. Lacart has been named sales representative for Allin Mfg. Co., Chicago, for the states of Wisconsin, Illinois, Indiana, and parts of Minnesota and Kentucky. Prior to his joining Allin, Lacart was with Electricmatic Div. of Simoniz Co., where he spent several years in the engineering department and most recently was a sales engineer in the midwestern area.



Dr. Edmond G. Young has been placed in charge of sales of "Freon" fluorinated hydrocarbon propellants for Kinetic Chemicals, Inc. The propellants are widely used in aerosol "bombs". Dr Young succeeds **W. W. Rhodes**, who recently retired. Sales of "Freon" for refrigeration and air conditioning equipment continue in charge of **Robert L. Williams**.

Martin T. Cahenzli, Jr. has resigned as vice president and sales manager of Wabash Mfg. Co., Chicago, announces **E. W. Mack**, president. His responsibilities will be taken over by **Robert E. Caplan**, formerly Cahenzli's assistant and a member of the Wabash organization for the past three years.

In executive changes at Westinghouse Electric Corp., vice president **L. E. Osborne** has been given staff

Continued on page 65

Modernize YOUR FLARING TOOLS

GET 'Form-a-Gage'

STEP UP

THE QUALITY OF YOUR TUBE FLARES

The Papco No. 400 Flaring Tool and No. 500 Cutting Tool is a tube tool team that is turning out better flares faster. Now Papco has added the sensational new Form-a-Gage. This modern Height Gauge with Double Flare Plate (5 sizes in one) assures better and stronger double flares. You'll be far ahead with this modern tube tool team. Get faster and better flares with the modern No. 400 Flaring Tool—fine, fast, clean, square cuts with the new No. 500 Cutting Tool—scientific and accurate double flares with Form-a-Gage. You will want them all. Available in handy canvas Zip-Kit or individually.

Place the extended guide piece on the Double Flare Plate into the tube and swing the Pressure Pad, which is also a cone protector, into place. Compress the Double Flare Plate until it is stopped by contact with the Hexagon Flare Blocks.

STEP #2



Before clamping the tube, use the Height Gauge, as illustrated, to assure the proper amount of tubing required for a GOOD Double Flare.

STEP #1



WARNING

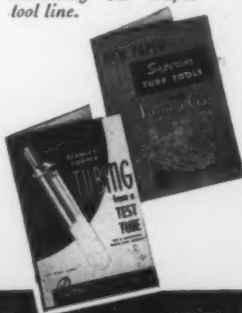
It is imperative to use the soft steel Pressure Pad over the Double Flare Plate, to protect the hardened and ground surface of cone.



TUBING FROM A TEST TUBE

For really clean tubing, specify Penn's 'Superior.' Write for the test tube story. Tubing has to be good to be 'Superior.'

Send for new literature describing the Papco tool line.



STEP #5

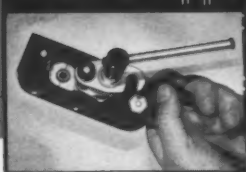


STEP #4



The first phase of the Double Flare completed after the Double Flare Plate has been removed and the Pressure Pad and Cone have been swung to one side.

STEP #3



Penn

BRASS & COPPER COMPANY

ERIE, PENNSYLVANIA, U.S.A. • PHONE 3-5111

MAKE YOUR CUSTOMERS



Refrigeration dealer O. O. Hendricks (left) and market owner W. W. Rogers maintain an ideal seller-buyer relationship. Here they talk over plans for a new Rogers store.

Dealers like O. O. Hendricks don't worry over the problem of obtaining repeat business. They just build a steadily growing backlog of "old customers" by making their first installation for each one do a real selling job

DO a really outstanding job on the first installation you make for every new customer, and you won't have to worry about repeat business. The customers will come back of their own volition when they have more work to be done.

O. O. Hendricks, owner of O. O. Hendricks Refrigeration & Store Equipment Co., longtime Hussmann distributor in Fort Wayne, Ind., has always believed in the truth of that simple business axiom. What's more important, he has, over the years, built it into a successful, practical, operating business policy.

A perfect example of the effectiveness of this policy lies in the relationship which exists between refrigeration dealer Hendricks and one of his better prospects, W. W. Rogers, who,



This installation in the first big Rogers Market proved so satisfactory in every respect that dealer Hendricks got the call to handle the refrigeration requirements of each new store added to the Rogers chain.

Refinements like those evident in this newest Rogers market resulted from lessons learned in previous installations. Note the L-shaped arrangement of the frozen food cabinets, with the glass-topped partition along the check-out aisle.



COME BACK FOR MORE

with his son Harry, operates a string of local food stores under the name of Rogers Markets, Inc.

Some four years ago the elder Rogers broke away from the Kroger organization, which he had served for many years in an executive capacity, to go into business for himself in Fort Wayne. Starting out to "feel his way" in this new venture, Rogers purchased a small food store and revamped it slightly through the addition of a few new refrigeration units.

About a year later, having his feet solidly on the ground, Rogers set out to build his first big supermarket operation on Pontiac Ave. He frankly admits that he first approached Hendricks on the matter of supplying the refrigeration equipment for this market primarily because, during his years of experience in the field, he had developed a decided preference for Hussmann equipment.

So, making this sale did not present too much of a problem for Hendricks. He had the inside track right from the start. The important thing, however, is that he did not take advantage of his favored position by doing a mediocre job which would just "get by." Instead, closely adhering to his tried and tested principles, he really went "all out" in an effort to make this installation the finest kind of a job that he knew how to do.

Included in this installation was one 8 x 20-foot walk-in cooler for meat storage, one 8 x 16 produce cooler of the walk-in type, one 8 x 8 walk-in freezer, 42 linear feet of fresh meat cases, 22 linear feet of dairy case, and 16 linear feet of frozen food display cases.

The meat cooler was powered by a 3-hp compressor. One 2-hp unit powered the produce cooler, while another was connected with the walk-in freezer. Still another 2-hp compressor provided cooling for the meat display cases, while a fourth 2-hp unit handled the dairy cases. Each of

the two frozen food cabinets was powered by its own self-contained $\frac{3}{4}$ -hp condensing unit.

So thoroughly pleased was Rogers with the appearance, quality, and performance of this installation that it was practically "no contest" when it came to providing the necessary equipment for the store on Fairfield Ave. which Rogers later bought out and changed over to his style of operation. Because of the favorable impression which he made on Rogers through that earlier installation, Hendricks won this new job "hands down and going away."

While not a large or elaborate job, the installation in this Fairfield market involved the replacing of all

Continued on page 68



Hendricks examines one of the porcelain clad Hussmann blower units which he installed in the meat cooler of the new Rogers store.



Editor's Note: O. O. Hendricks has just reported that his policy of keeping his customers satisfied through quality installations—a policy which he has followed religiously during his 30 years of merchandising Hussmann refrigeration equipment in the Fort Wayne, Ind. area—has made it possible for him to buy this new building at 1830-32 So. Lafayette St. The building itself measures 39 x 152 feet, with an adjacent parking area measuring 64 x 152 feet.

Curtis Dealers Appreciate the Extra Profits in the CURTIS Line



Beautifully finished units like this—3 and 5 ton.
Central or remote type—7½, 10 and 15 tons.

Here's Why—

Curtis slow-speed compressor equipment with TIMKEN roller bearings and the famous Curtis designed "Centro-Ring" pressure oiling system reduces friction and wear, providing low water and electricity consumption and assuring longer life.

The interior of Curtis air conditioner cabinets are insulated with an approved type of heavy insulating and sound-absorbing material, thus exterior sweating is prevented—quietness is assured

All Adds Up to More Profits Because of—

- Long Life, Slow Speed
- Negligible Maintenance Expense
- Quiet, Dependable Operation
- One-Day Installation
- Smart, Modern Exterior Appearance
- Completely Assembled at the Factory
- Full Range of Sizes and Capacities

**Before You Sign, Check the Advantages
of the Curtis Line**



REFRIGERATING DIVISION

of Curtis Manufacturing Company

1915 Kienlen Avenue • Saint Louis 20, Missouri

95 Years of Precision Manufacturing

REFRIGERATION INDUSTRY

News

LA CROSSE OFFERS PRICE PROTECTION

La Crosse Cooler Co. has announced a price protection plan to its dealers, covering purchases made between July 15 and Dec. 31, 1949.

The benefit of any price reduction during the balance of 1949 would be extended to cover any stock purchased during that period and still in the dealer's possession.

LA CROSSE ADDS TO FACTORY SPACE

La Crosse Cooler Co., La Crosse, Wis., has announced that work has been started on the latest addition to its factory. A 140 by 150 ft. addition to the present warehouses is now under construction.

The new plant of La Crosse Cooler was completed in 1946, but the addition of many items to its line of commercial refrigeration equipment has made it necessary for additional production space within the plant. This has necessitated the building of this new warehouse for the storing of raw materials.

The warehouse will be completed within approximately 90 days.

FARR FIRM HAS NORGE IN OHIO

Refrigeration Sales Corp., Cleveland, has been appointed exclusive distributor of all Norge appliances in the northeastern Ohio distributing territory.

Warren W. Farr is president of the company, which was established in 1921 by E. W. Farr, Sr. and taken over by his son in 1929 as a refrigeration service company and sales agency for commercial refrigeration.

Present officers, besides Farr, are: William M. Brewer, vice president in charge of engineering; Samuel E. Trackman, vice president in charge of sales; and Curtis Blair, comptroller and treasurer.

BOONE REPRESENTS C-H IN EAST

Cutler-Hammer, Inc. announces the appointment of George I. Boone & Son, New York City, as eastern refrigeration sales representatives, covering the New York, Boston and Philadelphia areas. With offices at 1775 Broadway, the new agent will handle the complete line of Cutler-Hammer replacement control.

George I. Boone heads the company.

KELVINATOR ADDS NIGHT SHIFT

In response to increased consumer demand for its refrigerators, Kelvinator has announced the addition of a night shift to the final assembly line at its Grand Rapids, Mich., plant. Approximately 350 employees will be added.

INDUSTRY MEN ON PLANT SHOW BOARD

Representatives of firms in the refrigeration and air conditioning industry are included on the 15-man board which will act as an advisory group for the first Plant Maintenance Show to be held in the Auditorium, Cleveland, Jan. 16-19, 1950.

Board members include B. E. Boyd, vice president in charge of manufacturing, Owens-Corning Fiberglas Corp.; S. W. Corbin, industrial division, General Electric Co.; L. P. Hanson, general sales manager, U. S. Air Conditioning Corp.; and J. R. Hertzler, vice president and general sales manager, York Corp.

Some 50 firms already have reserved space for the conference, which will be the first ever devoted exclusively to plant maintenance problems.

RUSLANDERS BUY JEWETT COMPANY

The Jewett Refrigerator Co., 100-year-old Buffalo, N. Y. refrigerator manufacturing concern, has been acquired by interests of the 60-year-old manufacturing and jobbing company, Ruslander & Sons, Inc., it was announced recently by Harold Ruslander, vice president of the Ruslander company and new president of Jewett Refrigerator.

Ruslander succeeds Joseph Archabald as president of Jewett. Edgar B. Jewett is vice president of Jewett, a position he held before the Ruslander interests acquired the company's stock. Richard Ruslander, vice president of the Ruslander firm, is secretary of Jewett. Miss Mae Zolki, secretary and treasurer of Ruslander, is treasurer of Jewett.

According to the announcement, Jewett will continue to operate in its present quarters. It employs about 50 workers and manufactures commercial refrigerators, mortuary boxes and ice chests. Manufacturing operation of Ruslander will be moved to a part of the Jewett property.

CHICAGO CONTRACTORS AND GUESTS AT SECOND ANNUAL GOLF TOURNAMENT



A goodly crowd of contractors, wholesalers, and manufacturers' representatives gathered at the dinner which climaxed the Second Annual Golf Tournament of the Refrigeration and Air Conditioning Contractors Association of Chicago. The event was staged at the Midlothian Country Club. Competition was keen among the contractors

for the golf trophy which was donated last year by the wholesalers and which is to be passed on each year to the winning contractor. Three contractors—Frank Haas, John Annis, and Barney Pruyn—tied for low score and had to draw numbers for the trophy. Winner of the draw was Frank Haas, president of the Chicago group.

TOTAL SHIPMENTS OF AIR CONDITIONING EQUIPMENT AND COMPONENTS AND ACCESSORIES FOR AIR CONDITIONING AND COMMERCIAL REFRIGERATION EQUIPMENT, BY MAJOR CLASS OF PRODUCT: 1940-1948

(Money figures in thousands of dollars)

Product	1948			1947 ¹			1946			1945			1944			1940		
	Number	Value		Number	Value		Number	Value		Number	Value		Number	Value		Number	Value	
SECTION I—COMPONENTS AND ACCESSORIES																		
TOTAL	818,862	\$163,099	...	...	\$191,146	...	...	\$117,800	...	...	\$71,896	...	...	\$47,847	...	...	\$45,405	...
Condensing units	1,129	71,993	1,039,772	...	98,296	755,538	...	55,379	354,401	...	36,902	189,578	...	21,872	211,021	...	18,808	...
Ammonia refrigerants	817,733	1,799	1,646	...	2,107	1,409	...	1,464	1,785	...	2,503	1,431	...	2,481	985	...	964	...
Refrigerants except ammonia	774,351	70,194	973,093	...	90,224	754,129	...	53,915	352,616	...	34,399	188,147	...	19,391	210,036	...	17,844	...
Air cooled	43,382	55,379	924,553	...	73,742	712,781	...	40,340	327,031	...	23,378	177,717	...	15,282	187,468	...	12,313	...
Water cooled .....	...	14,815	48,540	...	16,482	41,348	...	13,575	25,585	...	11,021	10,430	...	4,109	22,568	...	5,531	...
Condensing units, not reported by type .....	...	...	65,033	...	5,965	...	...	...	...	...	...	...	...	...	...	...	...	...
Compressors and compressor units	459,390	33,493	n.a.	...	34,586	191,770	...	15,377	107,340	...	9,578	78,925	...	6,633	84,889	...	7,084	...
Ammonia refrigerants	4,156	9,209	4,415	...	9,481	3,176	...	5,862	3,211	...	5,059	2,259	...	3,322	1,734	...	2,234	...
Refrigerants except ammonia	455,234	24,284	313,682	...	20,148	188,594	...	9,515	104,129	...	4,519	76,666	...	3,311	83,155	...	4,850	...
Compressors and compressor units, not reported by type .....	...	...	n.a.	...	4,957	...	...	...	...	...	...	...	...	...	...	...	...	...
Centrifugal refrigeration machines	361	10,351	563	...	7,889	312	...	6,593	185	...	2,994	70	...	1,736	112	...	2,403	...
Heat exchanger equipment .....	...	47,262	...	...	250,375	...	...	40,451	...	...	22,422	...	...	17,606	...	...	17,110	...
Evaporative condensers	5,521	7,455	5,997	...	7,106	4,859	...	4,957	2,885	...	2,829	1,626	...	1,691	2,413	...	1,769	...
Unit coolers	102,223	17,524	141,163	...	19,611	190,552	...	18,203	91,003	...	10,186	58,921	...	6,631	63,417	...	7,076	...
Air conditioning	21,031	7,926	16,025	...	5,859	9,551	...	3,880	2,850	...	1,485	1,523	...	643	5,955	...	2,269	...
Refrigeration	81,192	9,598	125,138	...	13,752	181,001	...	14,323	88,153	...	8,701	57,398	...	5,988	57,462	...	4,807	...
Other heat exchanger equipment ² .....	...	22,283	...	...	23,658	...	...	17,291	...	...	9,407	...	...	9,284	...	...	8,265	...
SECTION II—SELF-CONTAINED AIR CONDITIONING UNITS AND ICE-MAKING MACHINES																		
Self-contained air conditioning units	110,579	47,808	74,976	...	39,509	47,664	...	19,500	14,973	...	11,230	n.a.	...	n.a.	n.a.	...	n.a.	...
Room type	73,638	15,503	42,904	...	9,930	29,835	...	5,870	1,126	...	326	n.a.	...	n.a.	n.a.	...	n.a.	...
Other than room type	36,941	32,305	32,072	...	29,579	17,829	...	13,630	13,847	...	10,904	4,468	...	3,615	5,880	...	4,467	...
Ice-making machines	8,332	5,341	7,822	...	3,122	n.a.	...	n.a.	2,805	...	4,044	3,665	...	3,351	1,045	...	628	...

n.a. Not available.

¹ Revised. Detailed statistics for 1947, as revised, are available in the 1947 Census of Manufactures publications.

² The 1947 data for heat exchanger equipment shown in this release have not been revised on the basis of additional reports received in 1947 Census of Manufactures, since the data for these establishments have not been included for 1948. The total value as reported in the 1947 Census of Manufactures is \$63,025 thousand. The 1949 release will include revised data for 1947 and 1948, including these additional establishments.

³ Includes condensers and liquid coolers, shell and tube and coil types, as well as fin coils (heating and cooling) and plate type evaporators.

\$216 MILLION VOLUME FOR INDUSTRY IN '48

Shipments of complete air conditioning equipment and components and accessories for air conditioning and commercial refrigeration equipment during 1948 were valued at \$216 million, according to the Bureau of the Census, Department of Commerce.

This represents a decrease of 8% from the \$234 million of this equipment shipped during 1947.

Components and accessories for air conditioning and commercial refrigeration equipment amounted to \$163 million, or 75%, of the total value of 1948 shipments; complete air conditioning equipment amounted to \$48 million or 22%; and ice making equipment to \$5 million.

The 1948 value of shipments of components and accessories for air conditioning and commercial refrigeration equipment (\$163 million) decreased 15% from the \$191 million in 1947, a reversal of the upward movement begun in 1945.

Value of all types of heat exchanger equipment shipped by establishments reporting in the 1948 survey decreased 6%, from \$50 million in 1947 to \$47 million in 1948.

Shipments of self-contained air conditioning units continued to increase in 1948 as compared with previous years. Room type air conditioning units increased 56%, from \$9.9 million in 1947 to \$15.5 million in 1948; other type air conditioning units increased 9% from \$29.6 million to \$32.3 million.

Factory shipments for export of components and accessories for air conditioning and commercial refrigeration equipment amounted to \$12.5 million, or 8% of the total value of shipments of these products. Exports of complete air conditioning units amounted to \$2.2 million, or 5% of the total, and exports of ice-making machines amounted to \$0.3 million, also 5% of the total value of these shipments.

According to reports to the Census Bureau, 71 plants were active in this industry during 1948.

CARRIER ACQUIRES CONCENTRATOR FIRM

Carrier Corp. plans to expand its operations through the acquisition of control of a California company responsible for the development of a new means of concentrating citrus juices for freezing and other purposes.

This was announced by Cloud Wampler, president of Carrier Corp., in reporting plans for the formation of a new concern, the C. E. Howard Corp., in which Carrier proposes to be the controlling stockholder, and take over the business

CORRECTION!

On page 49 of the July issue of COMMERCIAL REFRIGERATION AND AIR CONDITIONING we published an item announcing the fact that Heat Transfer Industries had selected Wilmington, Del., as the site of a plant to manufacture composite parts for air conditioning systems.

This information, we now find, was in error. We had the right city but the wrong state. The plant really is being located in Wilmington, North Carolina.

We sincerely regret any inconvenience which we may have caused any of our readers through publication of this erroneous information.

—The Editors

of C. E. Howard and Co., Southgate, Calif., manufacturers of the recently developed Kelly-Howard concentrator. For years the Howard company has made and sold large stainless steel vessels for farm and dairy use, including refrigerated storage tanks and insulated tank truck bodies.

The new concentrator, which retains vitamins and flavor by inducing evaporation in a high vacuum, without employing heat, also can be used in concentrating a number of liquids other than citrus juices, Wampler said. Extensive marketing plans are now being developed, he added, and the process will be made available not only on the Pacific Coast, but throughout the United States.

NEW MARLEY *Verflow**

An "Extra Quality" Tower

... At No Extra Cost



The New Marley VERFLOW sets a new standard in air conditioning and refrigeration Cooling Towers.

Check these "extra quality" features formerly found only on heavy duty, industrial cooling towers that are now available on all Marley wood or steel VERFLOWS at no extra cost to you...

✓ Lifetime nail-less filling. ✓ Filling that can be removed and reinstalled in a matter of minutes. ✓ Totally enclosed motors. ✓ Enclosed bearing housings with grease packed bearing. ✓ Marley air-foil section cast aluminum alloy fans. ✓ Special corrosion-resistant paint on metal towers. ✓ Heavy double-sheathed wood casing on wood towers. ✓ Patented, close-centered Marley jet action spray nozzles in balanced distribution system. ✓ Hinged louver frames and removable louvers. ✓ Quickly erected, easily operated with little maintenance time.

These and other "extra quality" features make Marley VERFLOW the best buy on the market. Many special accessories such as Geareducer drive, handrail and ladder are also available at a small added cost.

Ask your nearest Marley representative to tell you more about the VERFLOW or write for Bulletin V-49.



VERFLOW is the exclusive trademark of

THE MARLEY COMPANY, INC.
Kansas City 15, Kansas

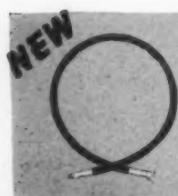
Here's effective VIBRATION control...



For small room air conditioners or huge institutional plants, CMH REX VIBRA-SORBERS keep compressor vibration and noise out of fixed lines. Tubing or piping free from the damaging effects of vibration gives better service and lasts longer... minimum noise transmission helps make satisfied customers. Made in sizes from 1/8" through 4", I.D.

Steel and stainless steel units for other vibration services are also standard assemblies.

Write for specification sheets.



CMH REFRIGERANT CHARGING LINES

are light weight, long-lived, quality charging units for all types of refrigerants. Non-deteriorating, non-corrosive, non-collapsible, non-kinking and non-seeping. Other flexible metal hose types are available for loading and unloading refrigerant.



ONE dependable
source for every
flexible metal hose
requirement.

CHICAGO METAL HOSE CORPORATION

Leaders in the Science of Flexonics
MAYWOOD, ILLINOIS
Plants at
Maywood, Elgin and Rock Falls, Illinois
In Canada:
Canadian Metal Hose Co., Ltd., Brampton, Ontario

RECORD OUTLETS IN EAST NAMED

Kirkwood Refrigeration Co., 4322 N. Kenmore Ave., Chicago, has been appointed distributor in the Chicago area for "Record" equipment, manufactured by Refrigeration Engineering, Inc., Los Angeles.

M & E Refrigeration Accessories Co. has been named to handle the equipment in the Philadelphia territory, operating in conjunction with Rasco, Inc., recently named exclusive distributor for that area. Rasco, Inc. is headed by Ted McLaughlin, formerly with Melchior, Armstrong, Dessau Co.

face workers. Sales activities in the Pacific Coast states are directed by L. R. Kessler, a vice president. Branch sales offices are maintained in Seattle, Portland, San Francisco and Los Angeles, and sub-branches in Spokane, Wash.; Eugene, Ore.; Sacramento, Fresno and San Jose, Calif.; Phoenix, Ariz.; Albuquerque, N. M., and Salt Lake City.

STANDARD-KEIL MOVES TO NEW YORK CITY

Standard-Keil Hardware Mfg. Co., Inc., announces the removal of its general business and sales office to a new location at 639 Broadway, New York 12, N. Y. The company's offices previously had been at 2413 Atlantic Ave., Brooklyn, where the factory is located.

FIBERGLAS OPENS WEST COAST PLANT

Owens-Corning Fiberglass Corp. has recently opened a new plant in Santa Clara, Calif., to handle production of its products for sale in all states west of the Rocky Mountains. The plant, a \$7 million operation which has been building since 1948, is now turning out Fiberglas building and industrial insulation materials, and within a short time will be producing cold storage and aircraft insulation.

The new plant covers an area of 346,000 sq. ft. and employs 275 factory and of-

TRANE NAMES PAKISTAN OUTLET

Trane Co. announces the appointment of Duncan, Stratton and Company (U. K.) Ltd., Karachi, Pakistan, as distributors of Trane heating, cooling, and air conditioning equipment in Pakistan. Also included in the new territory will be the portion of Pakistan lying to the east of India, and partially in the provinces of Bengal and Assam.

PLAN ASRE ANNUAL MEETING



Chairman of several of the committees appointed by the Chicago section of the American Society of Refrigerating Engineers to plan for the ASRE's national annual meeting to be held at the Edgewater Beach hotel December 5 to 7, 1949, confer on preliminary arrangements. Left to right: K. E. Wolcott, treasurer, Chicago section; J. E. Salmon, secretary of the committee; Leon Buehler, Jr., Chicago section chairman; Fred P. Neff, general chairman of the committee; H. J. Prebensen, chairman, reception committee; Carl Eichstaedt, entertainment committee chairman; and Clarence Sieben, chairman of the banquet committee. Other committee chairmen include W. S. Bodinus, miscellaneous arrangements; D. E. Perham, meetings; J. P. McShane, budget; and C. M. Burnam, Jr., public relations. Mrs. J. P. McShane heads a committee planning activities for the ladies, and Burgess H. Jennings, national president of the ASRE and a member of the Chicago section, is honorary chairman of the general committee.

See Your **KEROTEST** Wholesaler



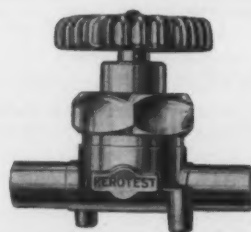
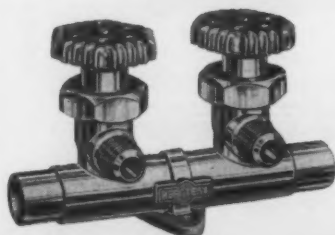
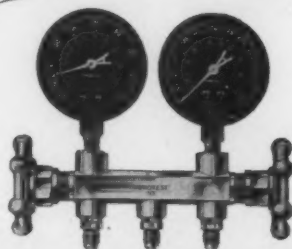
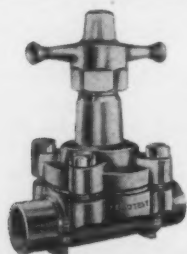
PROMPT, MONEY-SAVING SERVICE EVERYWHERE ON TOP-QUALITY REFRIGERATION VALVES AND FITTINGS

Just pick up your telephone . . . there's a Kerotest Wholesaler ready to serve your day-to-day needs with the finest in Kerotest Refrigeration Valves and Fittings and a host of other service essentials. Look to him always to maintain a complete stock . . . to keep you "up"

on the latest technical developments and to assist you with experienced "know-how." For every need . . . see your Kerotest Wholesaler.

**KEROTEST MANUFACTURING COMPANY
Pittsburgh 22, Pa.**

**AMERICA'S FIRST NAME IN QUALITY VALVES . . .
*Always First with the Latest!***



MODERN RESTAURANT . . .
Continued from page 33

ciency, and immaculate cleanliness.

Nine walk-in refrigerators, located in the main kitchen and in the several service rooms, provide for the bulk storage of all perishables (including even the garbage). These walk-in coolers have a total of approximately 8000 cu. ft. capacity. Each is held at a separate temperature to suit the type of food it holds.

Three of these walk-ins open off

the main kitchen. Three more are located in the basement receiving department, including the one which is used to refrigerate garbage until it is hauled away. Others are used for the storage of candy and baked goods in the food merchandising section which is operated in conjunction with the restaurant.

In addition to these bulk storage rooms, there are many smaller refrigeration units distributed throughout the service area. These units are located in setup tables, cold food tables, and other special functional

points in the service rooms.

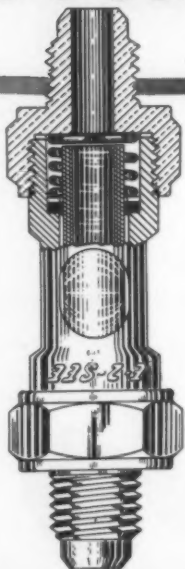
A special refrigerated display case is used in the "Food for the Home" department, and another at the outgoing order counter for packaged ice cream.

The establishment is air conditioned throughout. The actual dining areas are conditioned to provide the utmost in comfort for the restaurant's patrons. The off-white acoustical ceiling, set on two levels, furnishes a recess for cold cathode lighting as well as the air conditioning grilles.

In the kitchen and service areas, several special effects are employed to protect the health and increase the comfort of employees. The air conditioning system is designed so as to moderate heated air around units with the greatest heat radiation, thus balancing temperatures and preventing chilling drafts. Complete absence of cooking odors is assured by the design of the air distribution system, which sends the air toward the kitchens and service rooms, whence it is conveyed to the roof.

Arctic Engineering Co. of New York City supplied the refrigeration equipment for the establishment. Pollak & Grieve installed the air conditioning system.

Enthusiastic acceptance everywhere for leak-proof **E-Z-SEE** Liquid Indicators!



Yes, E-Z-SEE has at last provided the 100% answer to the industry's demands for a foolproof Liquid Indicator. And now, it is also the industry's most convenient to use—with these three different connection availabilities (all in sizes $\frac{1}{4}$ ", $\frac{3}{8}$ ", and $\frac{1}{2}$ ").



Sweat connections extended to permit soft or silver soldering without disassembling



Male flare both ends for line installation



One end female flare for direct attachment to drier

CHECK THESE ADVANTAGES

(1) E-Z to see thru—both sides of the body are open to let in light thru the tubular high-pressure gauge glass. (2) Positively Leak-proof—can't leak because springs automatically maintain a positive seal around the glass . . . the higher the pressure, the tighter the seal. (3) Perfectly Safe—glass is protected by unique slotting arrangement in brass body . . . glass actually "floats" . . . perfectly safe at pressures up to 500 PSI.

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Ridgefield, N. J.

Literature and Prices on Request



HERMETIC TRAINING . . .

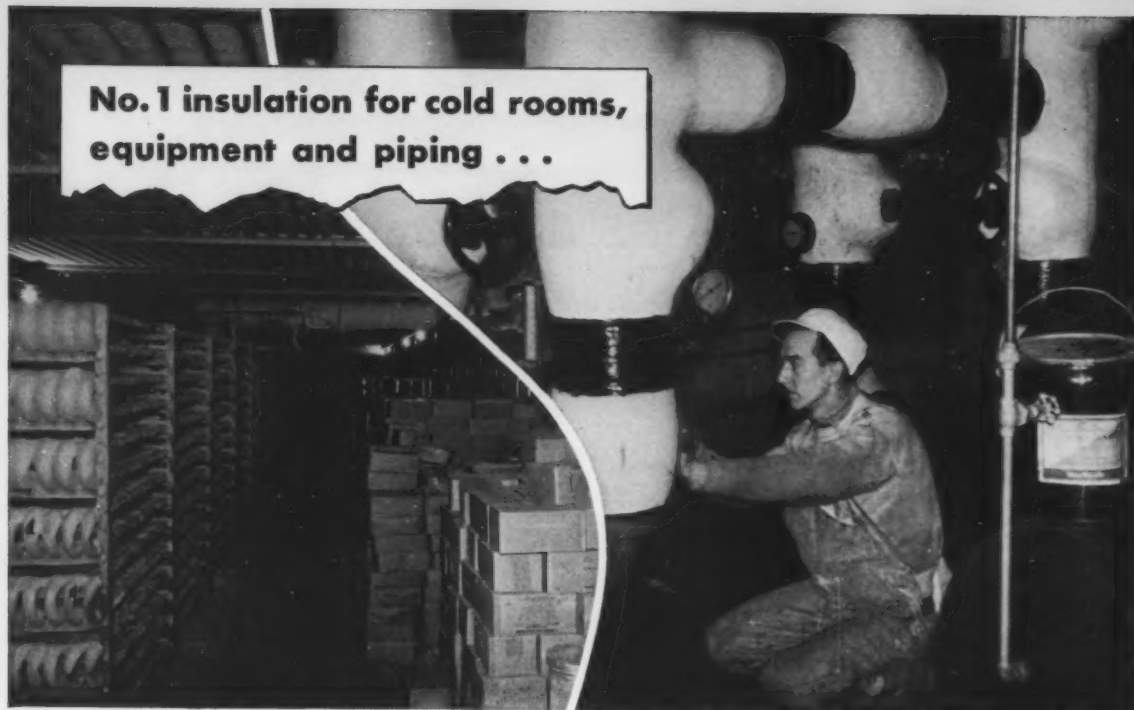
Continued from page 37

the problems connected with the operation of a course of instruction in hermetic unit servicing. Credner now has stated his willingness to share his experiences in this field. "The pioneering phases of such an enterprise are always the worst," he points out, "and I am sure that many people in the industry could profit by our headaches."

NEWPORT STEEL CORP. EARNINGS RISE

Net profit of Newport Steel Corp. and subsidiaries (of which Universal Cooler Div. is one) was \$1,845,800, after tax provision, for the six months ended April 30. The profit compares with \$618,000 earned for the same period in 1948 and with \$1,710,083 net profit after taxes for the entire fiscal year ended Oct. 31, 1948. Sales were \$40,206,000, up about 22% from sales of \$33,008,000 for the six months ended Apr. 30, 1948.

**No. 1 insulation for cold rooms,
equipment and piping . . .**



Outstanding for

- ... PROTECTION OF FOODS IN STORAGE
- ... EFFICIENCY AGAINST HEAT FLOW
- ... ECONOMY OF LONG SERVICE



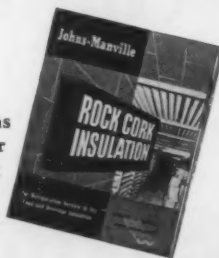
BECAUSE ROCK CORK® is basically mineral in composition, it acts as a highly efficient barrier to the flow of heat . . . gives many years of trouble-free service. And, in service, it safeguards sensitive food products, because it is sanitary and odorless, is moisture resistant, and is immune to vermin.

Rock Cork is manufactured from mineral wool combined in production with an asphaltic binder. It comes in sheets, lagging and pipe insulation form. Rock Cork pipe insulations are further protected with an asphalt saturated asbestos felt jacket that protects the longitudinal joints and reduces the need for seam filling.

Use this skilled application service—You're sure to get the most from your insulation investment if you have your next job engineered and applied by a Johns-Manville contract firm. For further information, write Johns-Manville, Box 290, New York 16, N.Y.

**SEND FOR
FREE FOLDER**

Folder IN-122A contains property tables and other important data on Rock Cork's advantages. Send for it today!



*Reg. U. S. Pat. Off.



Johns-Manville

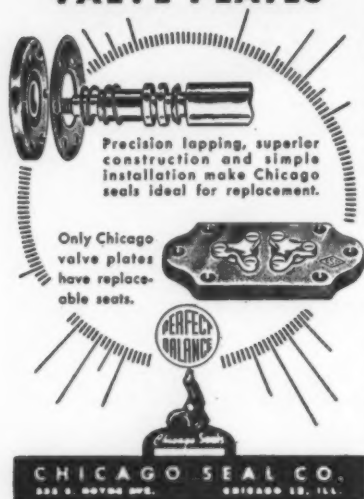
ROCK CORK

REFRIGERATION INSULATION

and AIR CONDITIONING • SEPTEMBER, 1949

PLAYSAFE

USE CHICAGO SEALS and VALVE PLATES



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WHEN YOU NEED

PARTS FOR CROSLEY COMPRESSORS

Write for Bulletin
listing new parts
for Crosley

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Useful LITERATURE

The publications listed below are available to readers without charge. Simply list on the postcard in this issue the key numbers of the items you wish to receive. Your requests will be forwarded directly to the companies concerned.

450—Air Meter . . . A 4-page folder explaining the operation of the new Anemotherm air meter, available from Anemostat Corp. of America. Folder shows how instrument is used to measure air velocity from 10 to 6000 fpm., explains application to temperature measurements from 30 to 155 F. Construction and operating principles of instrument are described.

451—Regulating Valves . . . Many types of regulating valves of water, steam, air, gas or oil are presented in Bulletin 10-1 offered by the Belfield Valve Div. of Minneapolis-Honeywell Regulator Co. Descriptive photographs and schematic diagrams of various type valves are included; complete dimension charts are given for various types of regulating and float valves.

452—Cooling Equipment . . . Three bulletins (C-1100-B34, C-1100-S74, C-1100-S73) offered by Worthington Pump & Machinery Corp. covering, respectively, its lines of ammonia booster compressors, V and W type single-acting HA series, its UCY series ammonia product coolers, and its series RCY package air conditioners. Dimensions, specifications, and physical data are given in all instances.

453—Panel Fasteners . . . A 4-page illustrated folder describing the Roto-Lock, new butt-joint panel fastener developed by Simmons Fastener Corp. Shows applications in cold storage shipping containers, walk-in coolers and military refrigerators, includes load rating tables and views of fasteners in operation.

454—Vibration Control . . . A 4-page bulletin (ER-701) issued by the Korfund Co., Inc., illustrating and describing Elastorib, a low cost cork and rubber mounting for controlling transmission of vibration and noise in refrigeration and air conditioning machinery as well as other mechanical equipment. Gives complete data on how material is used, shows photos of several typical installations.

455—Moisture Eliminator . . . Folders available from Highside Chemicals Co. describing Thawzone liquid drying agent. Describes what Thawzone is, when it should be used, type systems it can be used in, and tells other features.

456—Indicating Gages . . . A new 4-page brochure describing and illustrating the Star line of Superbronze non-corrosive indicating gages, manufactured by Star Brass division of Williams & Hussey Machine Co. Describes types, ranges, construction details, improvements in the line.

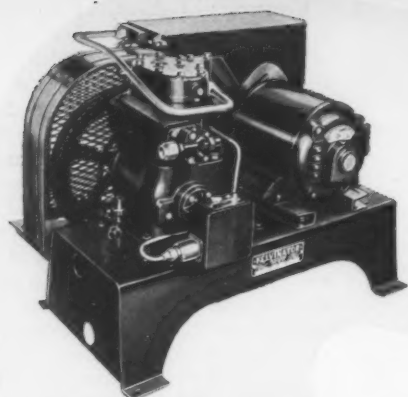
457—Crane Cab Coolers . . . A new bulletin (1300) published by Dravo Corp. describing air conditioning systems for crane cabs operating in hot or contaminated atmospheres. Bulletin outlines requirements for air conditioning crane cabs and explains mechanical and functional features of equipment. Includes specification data sheets on three different models.

458—Pressure Gauges . . . A bulletin (No. G620) on the new Series 500 absolute pressure gauges published by Bristol Co. Bulletin describes instrument and gives data on new principles of operation employed.

459—Reference Chart . . . A handy reference chart of pressure-temperature characteristics of some common refrigerants, issued by Wilcox & Follett Co., publishers of "The Refrigeration Serviceman's Manual". This is a reproduction of one of the 21 handy reference tables contained in the complete manual, and is of a size that will fit easily into the vest pocket.

460—Air Conditioners . . . A 4-page bulletin describing the Air-Pak line of "balanced" air conditioners manufactured by Air-Pak Co., Inc. The units, which are completely packaged in type, range in size from 7½ to 50 hp capacity. Bulletin gives complete capacity data and specifications on compressor, condenser and conditioner equipment.

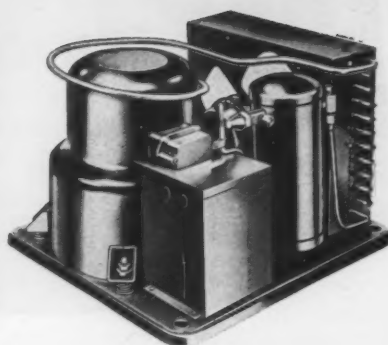
461—Condensers and Evaporators . . . Two new refrigeration equipment catalogs published by Bell & Gossett Co. Catalog BJ-848 provides complete engineering data on the B & G Hydro-Flo direct expansion evaporator line, and includes a section on simplified selection procedure and diagrams of typical refrigeration and cooling systems. Catalog BK-948 features B & G finned tube condensers in both straight tube and "U" bend models. Methods of correct selection, capacities, dimensions and other helpful data is given.



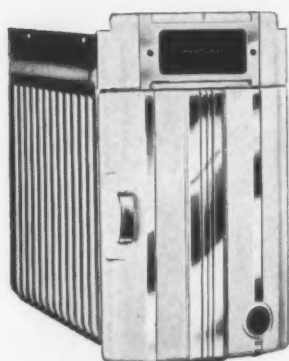
Kelvinator Open Type Condensing Units (1/4 H. P. to 1 H. P.)



Kelvinator Water Coolers (Pressure and Bubbler Types)



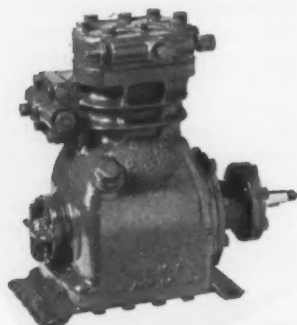
Kelvinator Sealed Type Condensing Units (1/4 H. P. to 1/2 H. P.)



Kelvinator Stainless Steel Evaporators



Kelvinator Silica Gel Driers



Kelvinator Compressors (1/6 H. P. to 5 H. P.)

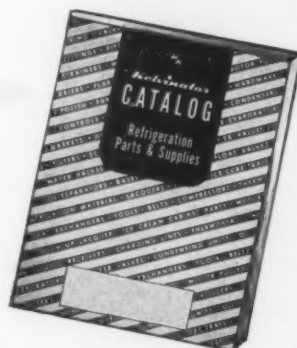
Kelvinator

...when you look at the record!

YES, on the record, more and more sales-minded refrigeration men choose Kelvinator for products that are trouble-free in performance . . . competitive in price . . . have user acceptance. See these top-quality products—with the name that always *sells*, always *satisfies*—at your nearest Kelvinator supply depot. All types and sizes available for immediate shipment. Write, phone or stop in for quick service or helpful information in solving your installation or service problems. Kelvinator, Division Nash-Kelvinator Corp., Detroit 32, Mich.

Get your copy!

It's Kelvinator's new catalogue for the quick, easy way to buy refrigeration parts and supplies. Hundreds of items to choose from. Ask for it at your nearest Kelvinator Distributor's or Zone office.



DEPEND ON KELVINATOR FOR ALL YOUR REFRIGERATION NEEDS
and AIR CONDITIONING • SEPTEMBER, 1949

NEW Products

For further information on any of these products, simply list on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

Sandwich Unit • • • • P-464

Product: Refrigerated sandwich unit designed to retail at \$249.50 f.o.b. factory (Muncie, Ind.).

Manufacturer: J. H. Rasmussen & Co., Chicago.



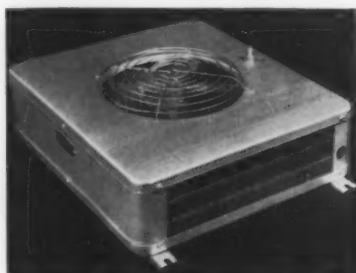
Features: Unit has trade name of "Glasco", comes in two color choices, all white or metallized grey. Included in equipment is thick maple cutting board, detachable crumb box, eight pans and roll-down hood. Interior of unit has 5 cu. ft. of refrigerated space, two ice trays (48 cubes) and space for four additional trays. Unit has 12-position cold control, four shelves. Cabinet is bonderized welded steel construction, finished in baked enamel; fiber glass insulation. Refrigerator cabinet is 36" high, 27" wide, 24½" deep. Overall height of unit is 43½". Company now setting up national distribution; franchises available.

Blower Coil • • • • • P-465

Product: "Twinair" two directional forced air evaporator.

Manufacturer: International Coil Co., Inglewood, Calif.

Features: Embodying "Permabond" coil sections with swaged fins, these units are cross-connected for positive protection from oil logging and refrigeration unbalance. Hermetically lubricated motors eliminate oiling and axial flow fans reduce



air noise to a minimum. Case is aluminum, with both interior and exterior finished in corrosion resistant "Alumilite." Ease of hanging and servicing is provided by hardened steel Tinnerman sheet metal assembly throughout. Only 6 inches in depth.

Frozen Food Case • • • P-466

Product: "Mobile Merchandiser" open type self-service cabinet for ice cream or frozen foods.



Manufacturer: Haldorf Mfg.

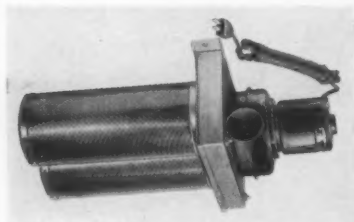
Co., Philadelphia.

Features: Cabinet, of 370-pint capacity, is equipped with four swivel casters for easy mobility. Packages are visible through 4-thickness plate glass front, and accessible through a 14" x 44" top opening, said to be unusually large for this type of unit. Each unit has night cover. Superstructure has two three-dimension natural color pictures, edge-lit plexiglass three-dimension top sign. All-steel cabinet, finished in triple-coated white baked enamel, with polished stainless steel top and trim. Compartments have wire quick-change trays for easy stock replacement. Unit uses coil refrigeration plus cold plate compartment separators; powered by 1/2 hp Servel Supermetic unit.

Odor Absorber • • • • P-467

Product: Compact odor absorber (air purifier) for walk-in and reach-in coolers.

Manufacturer: W. B. Connor Engineering Corp., New York City.

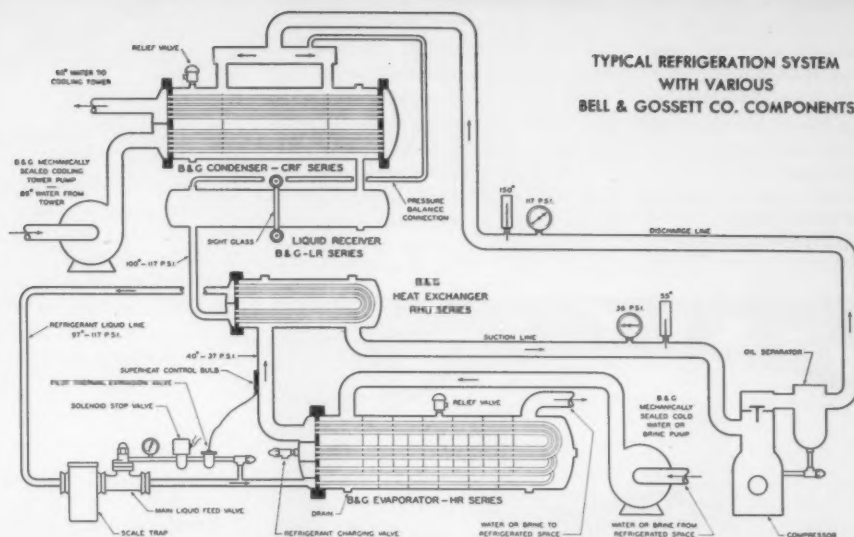


Features: Device uses activated carbon as a filter to remove gases and vapors (odors) from refrigerator air, and is similar in design and operation to larger and more elaborate equipment used in air conditioning and industry. Called "Food Saver," it is expected to answer problems of (1) keeping air sweet and clean, and (2) preventing transfer of flavors between foods. Product consists of two perforated metal cannisters containing active filter medium, a small blower and motor. One unit will serve boxes up to 1000 cu. ft. in size. Costs of operation are about same as for small light bulb; replacement required about three times yearly.

Back Bar Unit • • • • P-468

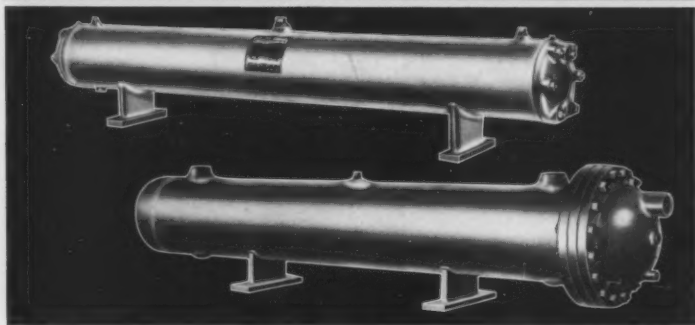
Product: New line of back bar equipment.

Manufacturer: Stanley Knight



TYPICAL REFRIGERATION SYSTEM
WITH VARIOUS
BELL & GOSSETT CO. COMPONENTS

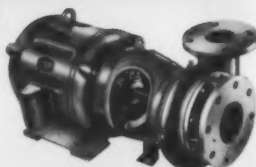
Low Cost Refrigeration



B & G CENTRIFUGAL PUMPS



You'll find all your refrigeration pumping requirements satisfied by the wide range of heads and capacities offered by B & G Centrifugal Pumps. Catalogs on request.



The above diagram presents a sound guide to refrigeration equipment selection. Because when you specify B & G Refrigeration Units you receive the benefits of a quarter century's experience in the design, manufacture and installation of heat transfer equipment.

B & G Condensers and Evaporators are designed to deliver maximum tonnage with minimum operating expense. They give long, trouble-free service—*because they're built right*—and have proved it in the field.

When you've seen all the facts you'll agree that here is refrigeration equipment you can depend upon. Send today for catalogs giving complete descriptions and engineering data.



Hydro-Flo^{*}

REFRIGERATION EQUIPMENT

^{*}Reg. U.S. Pat. Off.

BELL & GOSSETT COMPANY • Dept. RBD-45, Morton Grove, Illinois

Corp., Chicago, Ill.

Features: Equipment ranges from refrigerated cabinets to a grill and fryer stand, toaster section, sandwich units, hot food units, shelving sections, and dry storage cabinets. Welded steel construction. Convenient working level of the unit measures 34 x 22 inches. Units so designed that neat fitting strips cover joints between adjacent sections, eliminating crevices and aiding sanitation.

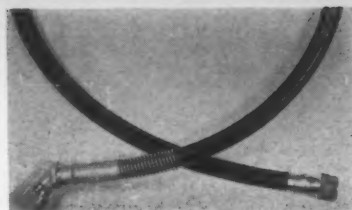
**BUY FROM YOUR
REFRIGERATION WHOLESALER**

Charging Hose • • • • P-469

Product: New type "C" angle charging hose.

Manufacturer: Fine Products Co., Chicago.

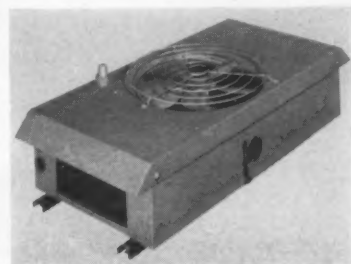
Features: Type "C" angle charging hose has 45-degree elbow offering either a 45 or 135 angle approach, so that either can be used as situation demands. A full length 36" hose, this new hose has a neoprene covering and lining which is impervious to refrigerant. Rayon reinforcing provides strength to withstand pressures



up to 1000 psi. Extremely flexible, to allow small radius bends without danger of kinking. Strong coil string protects hose at elbow, point of greatest wear. One-piece construction from flare joint to hose eliminates joint leakage. Hose is equipped with "Rapid" couplers, requiring no wrench for connection. Company has other charging hose designated as Types "A" and "B." Literature available from company.

Ceiling Mount Unit • • P-470

Product: "Strat-E-Fex Jr.," a new ceiling mount type cooling unit designed specifically for back bar and



bottle box applications.

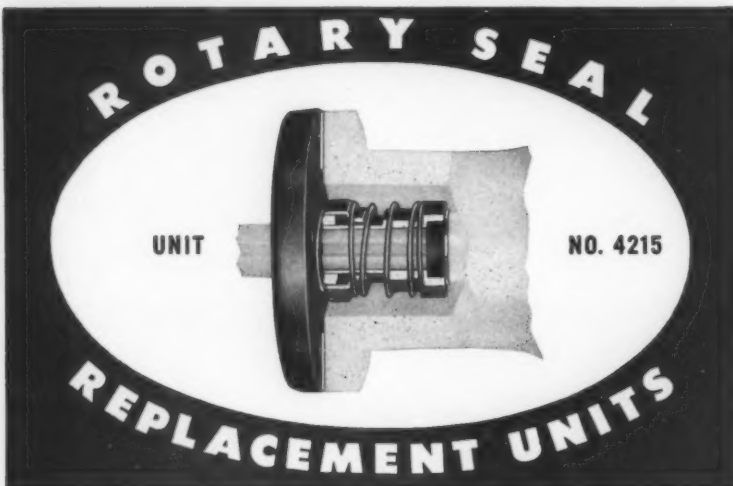
Manufacturer: Refrigeration appliances, Inc., Chicago.

Features: Unit draws air through a bottom grille and discharges it over coils placed at both ends of unit. Size of unit is only 6-3/4" high x 12-7/8" wide, permitting maximum storage space for bottles. Single unit, because of two-way air discharge, can cool a long back bar, it is claimed. Unit available in two sizes with adequate capacities for majority of back bar applications. Special bulletin listing specifications, shipping and capacity data available from company on request.

Volt-Ammeter • • • • P-471

Product: Pocket type volt-ammeter.

Manufacturer: Pyramid Instru-



are available in a complete range of sizes—including the larger models for use in Commercial and Semi-Commercial Compressors, such as:

BAKER	CURTIS	MILLS
BRUNNER	FRIGIDAIRE	PAR
CARRIER	GENERAL ELECTRIC	UNIVERSAL COOLER
COPELAND	KELVINATOR	WESTINGHOUSE

and others

**MORE THAN
848
MODELS**



**AT ALL
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MONTREAL 28, QUEBEC, CANADA**

THE 49 V-BELTS IN GREATEST DEMAND

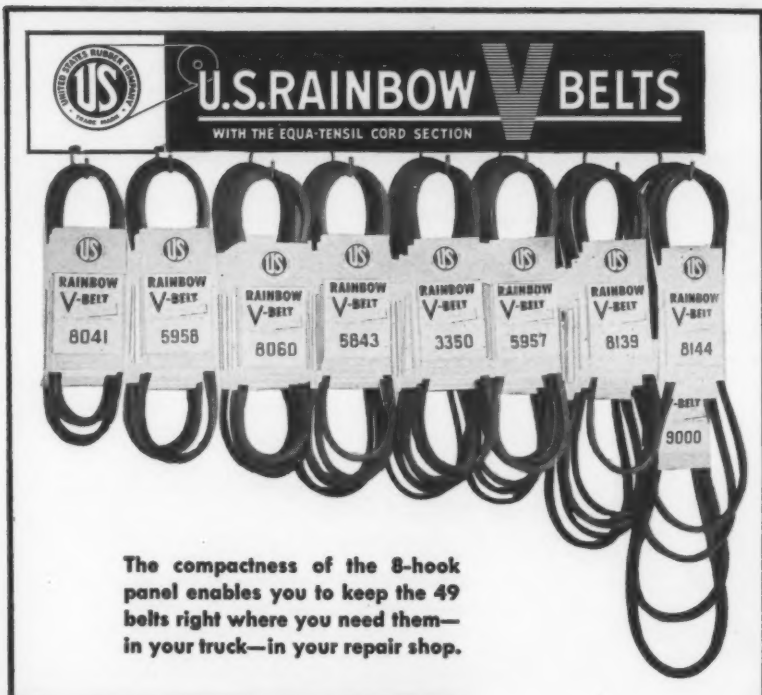
—in a Portable Assortment

Here in one convenient group are all the belts that can handle the majority of emergencies in the Refrigeration field.

These 49 Belts cover service on hundreds of domestic and commercial refrigeration units, ice cream machines, frozen-food plants, air-conditioning systems and other allied equipment. With this compact stock you can be ready with the exact belt needed.

Each belt has that unique U. S. Rubber development which provides greater pull and endurance—the Equa-Tensil Cord Section.

Order from your Jobber, or, for more information write Mechanical Goods Division, United States Rubber Company, 1230 Avenue of the Americas, New York 20, N. Y.



The compactness of the 8-hook panel enables you to keep the 49 belts right where you need them—in your truck—in your repair shop.



Top Rubber Cushion in closely-engineered balance with the lower section . . . to keep cool under constant stretch and turn.

Equa-Tensil Cord Section—all cords scientifically placed, each pulling its share of the load.

A sturdy level cushion for the Equa-Tensil Cord Section. Provides structural firmness for V-grooves and over the flat pulley of V-to-flat drives.

PRODUCTS OF

U.S. RUBBER
SERVING THROUGH SCIENCE

UNITED STATES
RUBBER COMPANY

A. O. Smith Builds ELECTRIC MOTORS

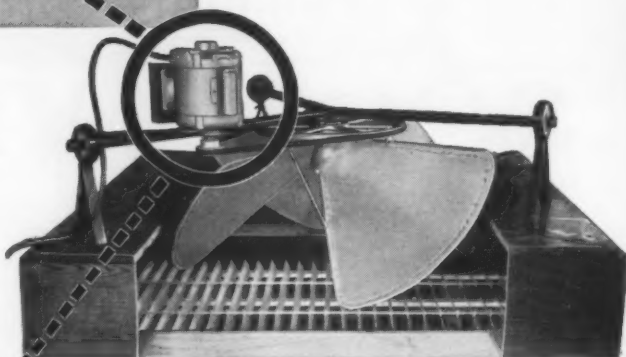


for hundreds
of products,
including
**CLIPPER
COMFORT
FANS**

Typical of the many problems A. O. Smith has solved in engineering and building electric motors to specific product requirements is that of The Clipper Manufacturing Co., Houston, whose "Clipper Comfort" home-cooling fan is pictured here.

If you are seeking improved performance in your product, or if you require special characteristics in your power component, consult the A. O. Smith man. For at A. O. Smith, where research has long been "big business," an experienced research and engineering staff is at your disposal, to help integrate electric motor design with your special product design.

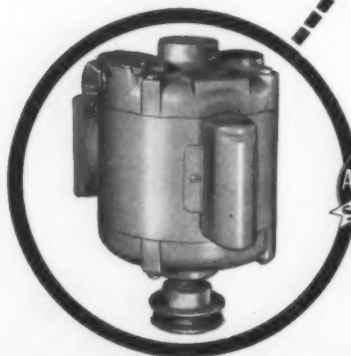
Write for Bulletin No. EM-152



CLIPPER COMFORT FANS, for hot-weather cooling of homes, are designed to operate vertically or (as pictured here in an attic-floor installation) horizontally. The "Hush-Hush" blades, of specially treated canvas, are screened by a ceiling shutter which opens automatically when the fan starts, closes when the fan stops.

A. O. SMITH ELECTRIC MOTORS for Clipper Fans, like all A. O. Smith Motors, are designed to provide the maximum in compactness, safety, and trouble-free service. Quiet, cool-running, these motors are 1725 rpm, single-phase, 115/230v., capacitor start, wound for dual rotation. Ball bearings are pre-lubricated and self-protected from dust. They are capable of carrying loads 24 hours a day.

Ask the A. O. Smith man about electric motors for both special and standard uses



24-HOUR MOTOR SERVICE

A. O. Smith Product Service Division provides fast, low-cost electric-motor service to more than 200 authorized service stations, on a 24-hour, off-the-shelf basis. Factory Service Branches and Warehouses at Union, N. J., Chicago, Dallas, Los Angeles.

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A.O. Smith

ELECTRIC MOTORS

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Atlanta • Chicago • Detroit • Milwaukee • Houston • Tulsa
Dallas • Denver • Seattle • Los Angeles • San Francisco • Motor
Export Department: 13 East 40th St., New York 16

SEPTEMBER, 1949 • COMMERCIAL REFRIGERATION

ment Co., New York City.

Features: Measures current without interrupting service. Plastic finger trigger opens transformer probes and



clamps around conductor thus measuring current in that circuit. To measure voltage a pair of test leads are inserted into front-mounted pin-jacks and connected to line. Known as the "Amprobe," instrument is only 7-1/8" long x 2-9/16" wide x 1-1/8" thick. Weighs 12 ounces. Available in 2 models, each with seven ranges. Model A-5 is 6.5/13/26/65/130 amps and 130/260 volts; model A-10 is 10/25/50/198/250 amps and 150/-600 volts.

Gasket Corner Cutter • P-472

Product: Refrigerator door gasket corner cutter.

Manufacturer: Jarrow Products, Chicago.



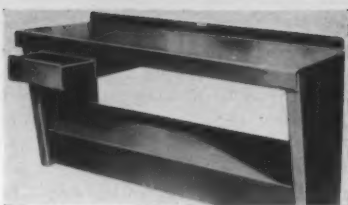
Features: Four-bar link supplies leverage several times greater than obtainable with plier type lever, insuring easier cutting. One-piece replaceable blade lengthens life of tool; blade so shaped that gasket does not pucker when corners are turned. Supplied in two types; one with fixed 90-degree blade (No. 161), retailing at \$5.95; another with variable angle blade, angles of which can be varied from 22 1/2 to 90 degrees (No. 162), retailing at \$6.90.

Work Bench • • • • • P-473

Product: Rugged, streamlined steel workbench.

Manufacturer: Equipto Div., Aurora Equipment Co., Aurora, Ill.

Features: Made for heaviest industrial uses, with 12-gauge steel top.



Measures 6 feet long, 34 inches high, 38 inches deep. Legs sloped to prevent stumbling. Electrical knockouts for double outlets are provided in front of each leg. Back rails keep items from rolling off top of bench.

Drawer is pilfer-proof and mounted on rollers. Full base to floor keeps dirt and refuse from accumulating underneath. Bench may be bolted to floor through concealed holes inside flange of end panel. Weighs over 200 pounds and solid enough to permit mounting of small lathes, presses, grinders, or other machines. Standard finish is olive green enamel.

Reach-in Cases • • • • • P-474

Product: New commercial reach-in refrigerators of 44 cu. ft. and 17

THE MOTOR SPEED... THE MOTOR H-P RATING

...are all you need to know

to select a safe, long-lasting Sprague motor capacitor replacement.

One glance at the motor nameplate and the simple tables in Sprague's Handy Guide To Motor Capacitors tells you the proper capacitor for practically all replacement jobs.

These time-saving tables are yours in two sizes—Sprague Guide C-900, a handy wall chart for the shop, and Guide C-901, a spiral-bound folder for pocket, tool kit, or work bench. Both have a greaseproof finish. These Guides are free. Write for yours today.

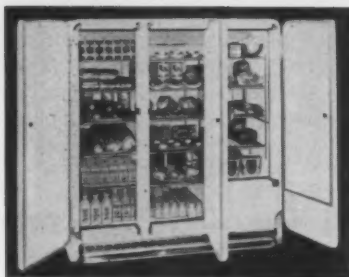
SPRAGUE PRODUCTS COMPANY, North Adams, Mass.
(Distributors' Division of the Sprague Electric Co.)

SPRAGUE CAPACITORS



cu. ft. capacity.

Manufacturer: Frigidaire Div.,

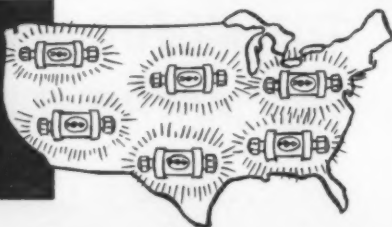


General Motors Corp., Dayton, Ohio.

Features: 44 cu. ft. unit has new type forced air cooling unit; 17 cu. ft. model is of ice-making type. For use in stores, restaurants, taverns, club, hotels, hospitals, and institutions. Cabinets are of heavy-gauge steel, with welded overlap joints sealed to keep out moisture. Interiors are of white porcelain with acid resisting panel bottoms. Insulation is 3" all around; automatic interior light is standard on both models. 44-foot unit uses 1/2-hp "Meter Miser" com-

pressor; 17-foot unit a 7/32 hp model. New forced air cooling unit uses enclosed fan located in ceiling to draw air from food compartment and force it over fin-type cooling unit; air is returned to bottom of cabinet by concealed duct, distributed through opening extending width of cabinet. Shelf area of larger model is 54.9 sq. ft.; of smaller model, 29.1 sq. ft. Smaller unit has ice capacity of 12 lbs., frozen food storage space for 56 lbs.

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APPROVED
in every section!**



**Fast — safe — thorough — low cost drying
of the Revolutionary NEW**



McINTIRE D-C FILTER DRIER

DOUBLE CAPACITY. D-C Filter Driers give you twice the moisture absorbency of conventional driers, size for size, under refrigeration conditions. Stay on the line longer, have reserve capacity for emergencies. Save call-backs, save cost.

EASY INSTALLATION ON LIQUID LINE. Can be installed right after receiver. Dry effectively at refrigerant temperatures up to 150° F.

FIRST PASS DRYING. Pre-screened, dust-free, granular desiccant absorbs and holds all moisture on contact. A single pass of refrigerant is dehydrated to -60° dew point. Wet systems restored to immediate operation. No repeated warming of valves or cycling necessary.

PROGRESSIVE FILTERING. Large and efficient combined compression member and filtering media accumulate all fines—assuring clean systems, with free flow.

TRY D-C FILTER DRIERS! Your wholesaler has them. Literature on request.

MADE by the
MAKERS of



MOISTURE INDICATORS and
MOISTURE CONTROL UNITS

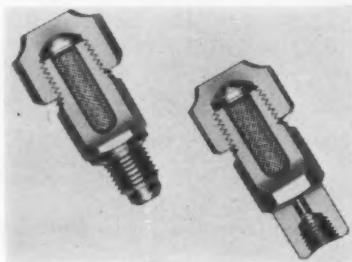
McINTIRE CONNECTOR COMPANY

427 Jefferson St., Newark 5, N. J.

Strainers • • • • • P-475

Product: Two new lost cost strainers.

Manufacturer: Allin Mfg. Co., Chicago.



Features: Not necessary to replace entire unit should strainers become clogged. Instead, 150 mesh monel screen is removed, visually inspect entire screen area, and clean if necessary. Said to save time, labor, and inspection. Both strainers supplied with forged flare nut on one end; two types are 1/4 x 1/4" M. flare line strainer and capillary tube strainer supplied with 1/4" M. flare connection on inlet and capillary tube connection on outlet. Outlet connection on latter unit fits all capillary tubes.

Meat Display Case • • P-476

Product: Model 500C top display meat case for continuous displays.

Manufacturer: Sherer-Gillett Co., Marshall, Mich.

Features: New model is furnished in sections without ends so any number of sections can be joined to make continuous display of any desired length. Narrow mullion only 3 1/4 in. wide where glass lines join is only interruption in line of vision. Model is available in sections either

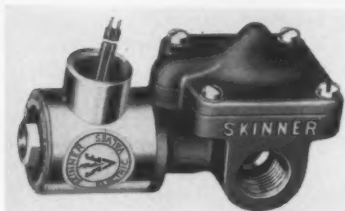
7'6" or 9'6" long, so market operator can combine them to get any length he wants. Two removable end sections are needed for any length of case.

Model has every-item-visible feature so customers of any height can see entire display area. Case has welded steel frame, new rear shelf adjuster for display flexibility.

Solenoid Valves • • • • P-477

Product: New line of three-way bronze body solenoid valves.

Manufacturer: Skinner Electric



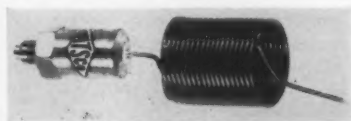
Valve Div., Skinner Chuck Co., Norwalk, Conn.

Features: Designated as Series M-3, new valves are designed for use with refrigeration and air conditioning equipment, as well as with oils, kerosene, gasoline, water, air etc. with operating pressures from 20 to 150 psi. Normally open, normally closed and directional flow control types available with full 3/8" orifice and 3/8" or 1/2" N.P.T. ports. All internal metal parts brass or stainless steel; soft synthetic inserts prevent leakage, spring loaded pilot insures positive closing with valve mounted in any position. May be used for continuous or intermittent duty. Valves are 5 1/2" high x 2-5/16" x 3-13/16," weigh approximately 3-3/4 lbs.

Capillary-Strainer Unit • P-478

Product: "Strain-&Kap capillary tube and strainer combination.

Manufacturer: Wagner Tool &



Supply Corp., Long Island City, N. Y.

Features: Product is designed to replace a high side float, low side float, and capillary tube. Operates on

open and sealed units from 1/10 to 1/5 hp using sulphur dioxide, methyl chloride or Freon-12 refrigerants. Easy installation is claimed, no cutting or adjustments required. Strainer is all-brass with 1/4" male flare connection. Contained therein are 3 monel screens (40-70-100 mesh) spaced so that refrigerant is strained and sifted in progressive action, permitting gradual pressure drop desirable for capillary systems. Soldered to strainer is hand tempered, seamless copper restrictor tube, precision drawn and individually tested for

proper pressure drop. Units are plastic sealed, individually boxed.

Ice Cream Merchandiser • P-479

Product: Open top self-service ice cream merchandiser.

Manufacturer: Jordon Refrigerator Co., Philadelphia.

Features: Model D9 unit has a capacity of 360 standard pints of ice cream, with every package accessible through an extra large top opening. Illuminated superstructure has a full

Earnings HIGH... investment LOW



Only the 50 most-wanted V-Belts—Plus 5 actually useful service helps — That's your Gilmer Assortment #355

This money-making V-Belt Department is only one arm wide. Right at the end of your fingertips it puts all the Gilmer V-Belt sizes you need most, according to sales and service records. You can't handle a wider range of the V-Belt volume, in smaller space, at less investment.

The start-stop speeds and small pulleys of refrigerator service need all the great Gilmer V-Belt features: anti-slip grip, smooth pull, close-controlled stretch, extra-duty cords and jackets. In Gilmer Assortment #355 you get belts

like that to make good on the job —and besides you get all these...

- 8-hook, sturdy metal rack for store, shop or truck.
- Patented Gilmer Handimeter for correct, fast belt measuring.
- Gilmer V-Belt Catalog of information — "America's Belt Bible."
- Practical Gilmer Inventory card to save stock-keeping work.
- Window Display Card that tells 'em to Buy it from you Now.

Buy through your Gilmer Distributor

L. H. GILMER COMPANY

Tacony, Philadelphia 35, Pa.

Division of United States Rubber Company



color three-dimensional photograph and a sign across the top composed of formed fluorescent plastic letters. Interior and exterior of cabinet are bonderized steel finished with two coats of hi-baked white enamel, and cabinet has a heavy gauge stainless steel top welded into one unit. Freezer is equipped with safety glass sidearms to prevent drafts from entering cabinet. Also, cabinet is equipped with casters so it can be moved to various locations in stores or supermarkets. Freezing plates across interior of cab-

inet, plus those in walls, help keep temperature constant.

Self-Service Cases • • • P-480

Product: Open type self-service cases for meats, dairy products and vegetables.

Manufacturer: Tyler Fixture Corp., Niles, Mich.

Features: Cases are designed for continuous self-service installations, where several units may be used in

series. Cases use exclusive "Tru-Line" locking device, designed to prevent sagging, give better case alignment. Vegetable cases have 4-position



It's the Radiant heating installation in the new Pacific Area Headquarters Building of the American Red Cross in San Francisco. There were over 1000 EASY-FLO joints in the floor panels and several hundreds more in mains, risers, branches etc.

60,000 feet
of radiant heating
all brazed
with **EASY-FLO 45**

GET THESE BULLETINS

They give full details about silver brazing alloys, how to apply them and get results. Ask for Bulletins 12-A, 15 and 17.



The job was done by Robert Bruen & Son, of Oakland, a leading West Coast contractor. The use of EASY-FLO 45 low temperature silver alloy brazing by this experienced contractor is the tip off that this method must be right for joining pipe and tubing—that it makes joints you can bury and forget. If you join pipe and tubing in the production, installation or repair of refrigerating heating or air conditioning equipment you'll want the facts about this fast, reliable, low cost brazing method. Get them in the bulletins mentioned at the left.

HANDY & HARMAN

82 FULTON STREET

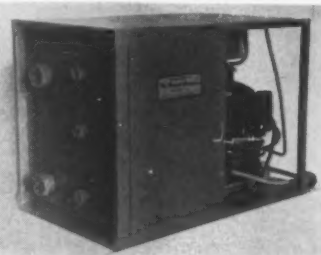
NEW YORK 7, N. Y.

Bridgeport, Conn. • Chicago, Ill. • Los Angeles, Cal. • Providence, R. I. • Toronto, Canada
Agents in Principal Cities

adjustable wire shelving allowing loading for various service requirements. Full length price tag molding is located at bottom of mirror, putting prices at eye level. Cases can be back against one another for island display use without top canopy, if desired. Meat case is three-level type, top shelf for non-refrigerated goods, bottom two shelves refrigerated. Same pricing, locking features as vegetable case. Both are welded all-steel construction, with full fluorescent lighting.

Photographic Water Cooler • • • • P-481

Product: New line of packaged water cooling and heating units for use under photographic darkroom sink to cool or heat incoming city water to a temperature suitable for mixing to 68° F.



Manufacturer: Housel Company, Orange, N. J.

Features: Engineered for quick, efficient operation and compact enough to be installed conveniently under photographic darkroom sink. Model HR 2 unit is encased in strong sheet metal cabinet 24" long, 15" wide and 18" high. Capacity sizes of 55, 94 and 141 gal. per hour from 85 F to 68 F or 120, 195 and 292 gal. per hour from 75 F to 68 F. Installation is simple — two 1-1/4" drain connections and three 1/2"

water connections. Mixing valve at sink provides constant temperature water within 1 F at any desired setting near 68 F by mixing chilled water with warmer water. Line available as straight cooling units or as combination heating and cooling units.

Centrifugal Pump • • • P-482

Product: Centrifugal pump capable of circulating water or other coolants in refrigeration and air conditioning applications where flows at low pressures are required.

Manufacturer: Thompson Products, Inc., Cleveland, Ohio.



Features: Has a capacity of 10 gallons per minute at a 5-foot head. Rugged yet simple construction with oversize, totally enclosed, double ball bearing, 1/25-hp motor. Pump body and impeller are machined from brass castings, inlet cover plate is a brass stamping, and an optional No. 12 mesh brass screen can be obtained. Impeller is mounted directly on an extended stainless steel motor shaft. Use of these non-corrosive materials makes the pump completely rustproof. Available for operation on 115 or 230 volt, 50 or 60 cycle alternating current, and 115 or 230 volt direct current.

Low-Side Coolers • • • P-483

Product: Complete new line of low-side coolers in copper and with copper evaporators.

Manufacturer: Filtrine Mfg. Co., Brooklyn, N. Y.

Features: New line includes units with evaporators ranging in size from 5 to 105 sq. ft. of surface. Their application is suited to air conditioning and all industrial purposes where non-ferrous metal is preferable to the

conventional galvanized steel.

In line with company's established policy, the new line of coolers is available only to accredited refrigeration dealers and distributors. Complete Filtrine line includes water coolers, circulating chilled water systems for commercial, industrial, commercial, photographic and X-ray applications, and water filters-dechlorinators.

**BUY FROM YOUR
REFRIGERATION WHOLESALE**

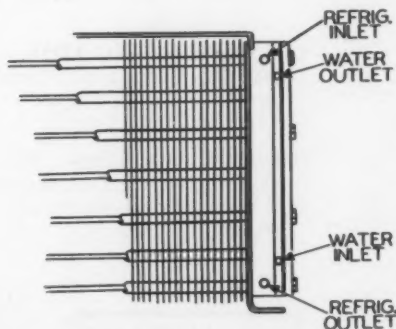
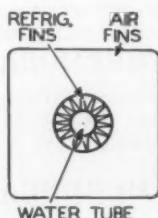
BUCKLEY IS CHAIRMAN OF PHILCO DIRECTORS

James T. Buckley, who was president of Philco Corp. from 1939 to 1943, and has since served as chairman of the executive committee, has been elected chairman of the corporation's board of directors to succeed the late John Ballantyne. William Balderston, president of the company, will continue to serve in that capacity. Buckley, who is 52, joined Philco in 1912.



Air economy plus water efficiency with minimum use of water automatically used when air temperature reaches 80°F. This newly developed condenser wins new customers and much goodwill.

Cleanable water tubes. Economical to install and operate. Saves space. Readily adaptable. Attractive appearance. Write for literature.



Fins in refrigerant tube transfer heat through many extra square feet of surface. Maximum outside air surfaces provide efficient air cooling. When air temperature reaches 80°F. water valve operates.

THE HEAT-X-CHANGER CO., INC.
415 Lexington Avenue, New York 17, N. Y. Brewster, N. Y.



MORE CAPACITY—The capacity of an evaporator drops rather sharply when it is used at low temperature levels because of heavy frosting. The THERMOBANK evaporator is rated under actual low temperature operating conditions, guaranteeing full rated capacity on the job.

THERMOBANK SAVES MONEY!

NO EXTRA MAINTENANCE—THERMOBANK defrosts itself. Since the THERMOBANK is so infallibly automatic, eliminating electric heaters, brine and water sprays, it does away with extra maintenance labor.

THERMOBANK SAVES MONEY!

LESS OPERATING TIME—An ice-free evaporator gives more compressor capacity. This cuts sharply the operating time of the system and frequently permits the use of a smaller size compressor.

THERMOBANK SAVES MONEY!

NO SPOILAGE LOSS—Radical temperature changes in low temperature rooms cause serious dehydration. In the THERMOBANK the freezer temperature is practically constant. This eliminates deterioration and weight losses.

THERMOBANK SAVES MONEY!

Send for Catalog 16R-A

THERMOBANK

..... **THE STANDARD OF THE INDUSTRY!**

KRAMER TRENTON CO. *Trenton 5, N. J.*

THERMOBANK - COOLMASTER - RADIAL UNITS - PANEL UNITS - CUBERS - FINNED COILS - BARE TUBE COILS - HEAT INTERCHANGERS -
CONDENSERS Air Cooled, Water Cooled, Evaporative - WATER COOLING EVAPORATORS - BLAST COOLING COILS - BLAST HEATING COILS.

ABOUT PEOPLE . . .

Continued from page 40

supervision over all the company's manufacturing activities; and **James H. Jewell**, also a vice president, takes over staff supervision of all sales and marketing on a company-wide basis. **John K. Hodnette** becomes general manager of industrial products with headquarters at Pittsburgh, and **John M. McKibbin** has been named general manager of consumer products, also headquartering at Pittsburgh.

John J. Summersby has been elected vice president in charge of sales of Worthington Pump and Machinery Corp. **Thomas J. Kehane**



Summersby



Kehane

was made assistant vice president and general sales manager.

Summersby joined the Cincinnati works of Worthington in 1916 as a student engineer. In 1919 he was assigned to the St. Paul district office as a salesman and later was made district sales manager. He was manager, Holyoke works sales from 1929 to 1931; assistant general sales manager from 1931 to 1934; and since 1934, assistant vice president and general sales manager.

Kehane joined Worthington in 1915, as an office boy, and advanced through various positions in the sales department, in 1944 being appointed commercial vice president, Pacific Coast. For the past two years he has served as Pacific Coast regional vice president of the Navy Industrial Association.

Robert D. Welsh, formerly assistant sales promotion manager of the Thermoid Co., has been appointed advertising manager of W. B. Connor Engineering Corp., manufacturer of activated carbon air purification equipment and ceiling air diffusers.

Grover L. Van Sciver has been named eastern regional manager of the fountain division of Liquid Carbonic Corp. **J. L. Odendhal** has been appointed assistant regional manager.

Charles V. Fenn, formerly in charge of direct sales for Carrier Corp. in the southeastern section of the United States, has been appointed manager of sales of Ingersoll division quarters in Syracuse. **Russell H. Gray** has been manager of direct sales in the Atlanta district to replace

him. Gray was assistant manager of direct sales in Syracuse.

James H. Carmine, vice president—distribution for the past two years, has been elected executive vice president of Philco Corp.

John D. Hoffman has been appointed to the newly created post of manager of direct sales of air conditioning and commercial refrigeration products of the General Electric



POWERS ALL PURPOSE SERVICE BODY

for refrigeration and air conditioning contractors

Tools and supplies for a day's work can be carried in the Service-Master — no need for frequent returns to the storeroom. Weather-tight compartments, equipped with shelves and parts bins, provide orderly and easily accessible storage space for small items. The 48 1/2" wide loading area readily accommodates bulky equipment and materials. Service-Master Bodies are available from distributors throughout the country for installation on 1/2, 3/4, and 1 ton chassis. Write for full particulars.



Optional equipment includes: overhead ladder racks; side mounted pipe racks; rear bumper and step; inside tire carrier; padded tie rails on interior sides and head panel.

COMMERCIAL BODY DIVISION
McCABE-POWERS AUTO BODY CO.
5900 N. BROADWAY • ST. LOUIS 15, MO.



Co.'s air conditioning department. In his new capacity, Hoffman will be responsible for all sales activities, to customers served direct, on air conditioning and commercial refrigeration, including water coolers and refrigeration machines.

Harold L. Gruhn, formerly sales representative in the Allis-Chalmers Milwaukee district office, has been named Midwest region dealer supervisor with headquarters in Chicago.

F. M. Drake, general sales manager of the New York branch of Frigidaire Sales Corp., has been promoted to manager of the Los Angeles branch. Drake succeeds **E. L. Williams**, who has been transferred to the Pacific region. Replacing Drake at the New York post is **H. M. Cline**, appliance sales manager of the eastern region.

Douglas L. De Vos has been named Chicago regional manager for the controls division of Perfex Corp.,

B. F. Werbe has been named West Coast regional manager with headquarters in San Francisco, and **E. W. Wiese** has taken over Werbe's former post of franchising of service distributors for the division.

Harry L. Quinn has recently been appointed sales manager of the air conditioning division of Refrigeration Engineering, Inc., Los Angeles, and will supervise the introduction of a new line of surface coils and ceiling and floor type air conditioning units.



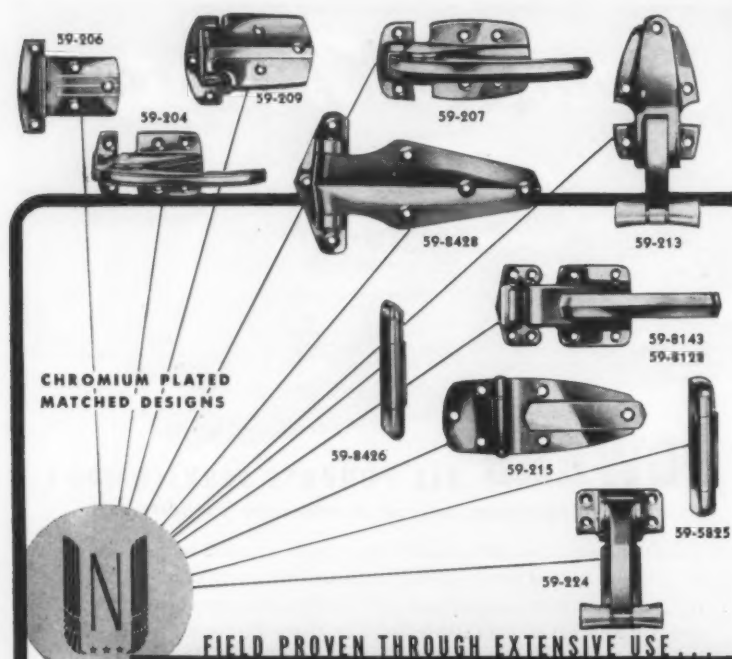
Quinn's experience covers almost a quarter of a century in commercial refrigeration and air conditioning. He started in 1925 with Frigidaire Sales Corp., with whom he spent more than 15 years in the sale of commercial refrigeration equipment.

In 1941 he joined the insulation division of Pacific Lumber Co., and in 1947 and 1948 he held the position of sales manager of the eastern division of Drayer-Hanson, Inc., with offices in New York City.

W. W. Pyeatt has rejoined Black, Sivalls & Bryson, Inc., and will direct the company's New Orleans sales office. Until about a year ago, Pyeatt was connected with BS&B's engineering department at Oklahoma City before engineering operations were centralized in Kansas City.

Walter F. Spoerl, general sales manager of the mechanical goods division of United States Rubber Co., has been named general manager for all divisions (mechanical goods, general products, Lastex yarn and rubber thread) under direction of Ernest G. Brown, vice president and general manager of the divisions.

Joseph D. Linehan has been elected to fill a vacancy on the board of directors of Binks Mfg. Co., Chicago. He is president of Continental Plastic Corp., Chicago, and a vice president of Linehan, Inc., Chicago printers and lithographers.



NATIONAL LOCK REFRIGERATOR HARDWARE

PREFERRED BY MANY FOR A WIDE RANGE OF JOBS

- REACH-IN CABINETS
- BACK BARS
- BOTTLED BEVERAGE COOLERS
- MILK COOLERS
- DISPLAY CASES
- FLORISTS BOXES
- DRAFT BEER EQUIPMENT
- STOKERS
- COIN-OPERATED REFRIGERATED DISPENSING MACHINES
- LOW TEMPERATURE HORIZONTAL OR VERTICAL CABINETS
- MANY OTHER TYPES OF REFRIGERATING EQUIPMENT

Ask your jobber for detailed information, including prices, of this attractive, durable refrigerator hardware for commercial and domestic applications. Prompt delivery can be assured on your orders.

NATIONAL LOCK COMPANY • ROCKFORD, ILLINOIS
REFRIGERATOR HARDWARE DIVISION

CAPILLARY TUBE . . .

Continued from page 35

pressor. Even a small increase in the speed of the compressor will lower the point at which the second frost back occurs, while a decrease in the speed will raise this point. The same is true when a compressor is substituted by one of lower or higher capacity.

Likewise the substitution of a drier or strainer with more or less restriction will affect the tube, although this will probably not make enough change to be noticeable.

Even more important in a capillary system is the balance between the compressor and the load. Too much compressor will result in high head pressures, jumping and bucking.

If we try to balance a system with too much compressor capacity we have to cut the tube so short that it is practically useless during the off cycle, allowing hot gas to flow into the evaporator and start the unit too soon. This condition can usually be remedied by decreasing the speed of the compressor until it will work normally with a capillary tube of average length.

Too little compressor will result in poor refrigeration. It will usually level off before the desired temperature is reached and no amount of lengthening or coiling the tube can change it. Sometimes this can be remedied by increasing the speed of the compressor. If not, the compressor should be replaced with one of greater capacity.

VISUAL SELLING . . .

Continued from page 31

cidedly unwise to consider any of these types of visual aids as complete sales tools in themselves, easing the way of the salesman to the point where he can sit back and let the pictures do the job. The fact is that fully half of the selling job remains for him to do.

Films can ease the approach, facilitate the appointment, lay the groundwork for the sale—but the salesman will have to capitalize on all of this both before and after the showing itself.

Pictorial presentations always pro-

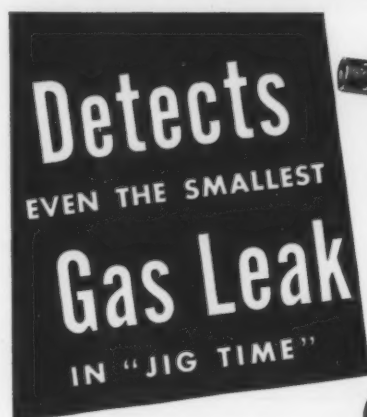
voke questions among prospects, which is a healthy sign in any sales job since it reveals customer interest and brings objections and doubts out into the open where the salesman can attack them.

A distinction must be made, however, between those types of pictures and programs which *indirectly* rouse interest and create demand, and those described above which are part and parcel of each sales contact. It also should be pointed out that usually, where sales organizations in this field have adopted visualized direct selling

aids, such films and the procedures of their use or application have been a part of a well planned over-all program.

Much will depend upon the marketing policies and mechanics of the organization, upon its selling policies, its field setup, objectives. Few programs of this kind are successful without a basic training program behind them, including the training of the salesmen to use the visual aids properly and effectively.

That visuals of whatever type are only powerful *aids* to persuasion in



TURNER

MODEL H-1

HALIDE REFRIGERANT GAS LEAK DETECTOR

Find leaks involving all chlorinated hydrocarbon refrigerants quickly and accurately with Turner's highly-sensitive Model H-1 Halide Detector. This blowtorch-type burner employs a simple chemical principle... flame becomes *green* whenever gas is present in the area surrounding a defective cooling unit. Designed and constructed throughout for long, dependable service. Has a flexible exploring tube for easy probing in "hard-to-get-at" places; holds one pint of alcohol fuel; measures 8" from handle to tip of burner x 7½" high x 4½" wide; can also be used as a blowtorch.

AVAILABLE FOR IMMEDIATE DELIVERY

*Made by the manufacturers of nationally-known
Turner Blow Torches and Fire Pots*

THE TURNER BRASS WORKS

ST. CAMOKE



ILLINOIS

Since 1871

DISPLAY - RITE SERVE - RITE SELL



WITH FREEZ - RITE

The outstanding open display cabinet that sells on sight. Moderate price. Superb quality. Sub zero temperature. Capacity 480 standard packages. Many exclusive features.

Choice distributor territories still available!

BAILEY & PERKINS CO.

2869 East Grand Blvd.
DETROIT 2, MICH.

the service of the seller working in a resistant market is the generally accepted belief of some of the nation's largest and most persistent users. The salesman still must do his stuff. But that they do reduce the time and cost of making sales, the amount depending upon many local factors including nature of the product or service, is a matter of record.

Benefit by Experience

One fact, however, should be kept constantly in mind in any consideration of the use of visual selling aids. There is now a great deal of experience available in this field, both as to the planning of the overall program and to the actual presentation of the visual medium to the prospect. The pioneering era in this field is largely over. The success of any individual visual selling program will depend, to a great degree, upon the effectiveness with which this past experience is utilized and adapted to the present needs.

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

COME BACK FOR MORE . . .

Continued from page 43

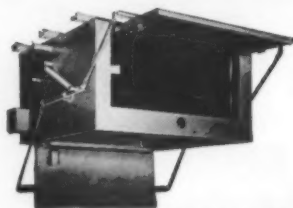
the condensing units. Also, one display case was moved to this store from the Pontiac store, and a new case was put into the latter establishment.

The reason for the replacement of the condensing units on this particular installation was that these machines were located in a poorly ventilated basement in which summer temperatures sometimes ran as high as 120-125F, and consequently the

50-YEAR TRIBUTE



Louis S. Morse, Sr., executive engineer of York Corp., and for over fifty years a leader in the engineering activities of the air conditioning and refrigeration industry, has become the first honorary member to be elected by the Air Conditioning and Refrigerating Machinery Association. ACRMA accords such recognition to those "who have brought unusual credit to the industry." Morse, as advisory engineer to the association's general standards committee for many years, has been particularly prominent in the development of ACRMA's standardization program. As a memento of the occasion, ACRMA members presented Mr. Morse with a mahogany-mounted clock and barometer set.



KRACK FREEZ - E - FEX

ORIGINAL ELECTRIC DEFROST LOW TEMPERATURE UNIT

For Fast Freezing or Low Temperature Storage, use Freez-E-Fex, the original electric defrost unit.

Completely insulated unit equipped with mechanically interconnected doors and strip heaters that are automatically turned on when doors are closed. Fans remain in operation, blowing heated air over the coils and return bends, defrosting completely the entire coil. Thermostat automatically shuts off strip heaters, eliminating fire hazard.

Available in four sizes for freon or ammonia. Used for many years by leading contractors everywhere. Preferred and specified by the Packing Industry.

Write for KRACK Bulletin 8149

REFRIGERATION APPLIANCES, Inc.

923 West Lake Street,
Chicago 7, Illinois

*Manufacturers of Refrigeration and
Air Conditioning Lowside Equipment*

UNIT COOLERS
COMFORT COOLERS

GRAVITY COILS
AIR CONDITIONING UNITS AND COILS

FREEZING UNITS

existing air cooled units were not functioning with proper efficiency. To overcome this situation, Hendricks installed three Hussmann combination air and water cooled condensing units.

Most recent plum picked by Hendricks as a direct result of the prestige and reputation which he acquired through the quality of his initial job for the Rogers organization was the installation of complete refrigeration facilities for the newest Rogers mar-

ket at the corner of Jefferson and Fulton streets. This market is truly a gem of modern food market design, and incorporates all of the merchandising methods and techniques which Rogers has learned through his many years in the food market business.

Following in general the pattern of the company's first supermarket, this store's equipment includes one 10 x 20-foot meat cooler powered by a 3-hp compressor connected with two porcelain-clad blowers, one 8 x 16 walk-in cooler for produce which is powered by a 2-hp compressor, and an 8 x 8 walk-in freezer powered by a 1½-hp condensing unit. All of the walk-in coolers are finished in porcelain, inside and out.

Located on the actual sales floor are 28 linear feet of continuous red meat cases, two 11-foot cases for the display and sale of dairy products and cold cuts, 18 linear feet of continuous open triple-deck dairy case, and two 8-foot self-contained frozen food cases. A 1½-hp compressor is used on the meat cases, a 2-hp machine on the delicatessen cases, and a 3-hp unit on the triple-deck dairy cases.

Sounds like a nice piece of business, doesn't it? The kind of a job any commercial refrigeration dealer would be glad to get. Yet the surprising part of this whole story is that Hendricks was awarded this contract—in direct competition with other firms—even though his bid was the highest one submitted!

The answer? Simple enough, as you listen to market owner Rogers explain it. "I was pretty well sold on the brand of equipment which Hendricks handles," he admits, "but even

more important than that was the fact that I knew from my previous experience with him that Hendricks would put in a job that I could be proud of in every way!"

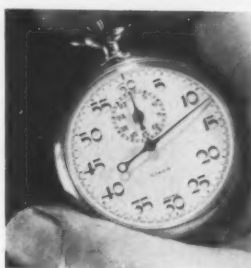
CARRIER TO COOL TWO NEW LINERS

A contract covering complete air conditioning and refrigeration of two of the newest passenger vessels to be built in the U.S. has been signed by Carrier Corp. with the Shipbuilding Division of Bethlehem Steel Co.

The ships, costing \$23,415,000 each, and as yet unnamed, are being built for American Export Lines, Inc., at Bethlehem's Fore River Yard, in Quincy, Mass.

Equipment will include two marine-type centrifugal refrigeration machines which will serve the air conditioning systems for the public rooms, staterooms and crews' quarters, and refrigeration equipment, including reciprocating Freon marine-type compressors, for extensive cargo and ship's stores refrigeration systems.

Finds ALL the MOISTURE in 2 MINUTES

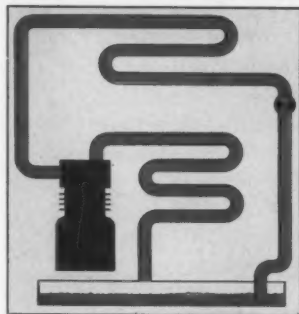


Thawzone Makes Complete Circuit of ½ H. P. Unit in 42 Seconds!

You get action with Thawzone. It's quick to "install". Just pour it in. Then start the compressor and Thawzone will travel about 300 feet per minute to every part of the unit. This enables it to get into action quickly. Also, you save time you used to spend figuring out sizes and going on rush trips for parts. You clear up the trouble sooner and finish more jobs per day.

Finds Moisture That's Beyond Reach of Other Methods

Thawzone travels to the moisture . . . and reaches all of it. Thawzone reaches the expansion valve, the receiver, the tubing walls, highside and low-side. Only this liquid method can do that. And the moisture is gone for good—can't "break loose" later.



Reaches The Entire Unit

Use Thawzone in "Freons", methyl chloride, "Carrene" or isobutane. Use 1 teaspoonful (½ oz.) per pound of refrigerant. Use half as much in hermetic units. Highside Chemicals Co., Colfax Avenue, Clifton, N. J..



THAWZONE®
LIQUID DEHYDRANT...
reaches all the moisture

6th All-Industry
**REFRIGERATION AND
AIR CONDITIONING**
Exposition

NOVEMBER
14 TO 18
1949

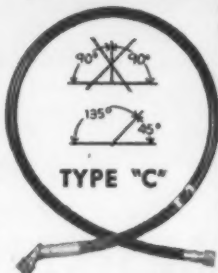
ATLANTIC CITY, N. J.
PROMOTE YOUR LINE IN '49
FOR BIGGER SALES IN '50!

NEW ANGLE CHARGING HOSE

WITH 45° "E-Z-FLO L-BO"

**Flexible, double-angle access,
durable . . . yet Low Priced!**

only
\$230
each
**Dealer
Net**



● Offers two angles of approach, 45° and 135°. Easier access, less flow resistance 36" rayon-reinforced refrigerant-resistant neoprene hose withstands pressures of 1000# psi. 1-piece flare construction, coil spring support, fingertip "Rapid" Coupler.

Your Wholesaler has Types
A & B charging hose, too!

Fine PRODUCTS CO.
185 N. WABASH AVE. • CHICAGO 1, ILL.

Slash VALVE INVENTORY COSTS UP TO 900%



GENERAL CONTROLS engineering offers tremendous savings in inventory investment, stock space and handling costs.

THE NEW SELECTIVE CAPACITY CARTRIDGE PROVIDES INSTANT SIZING ADJUSTMENT

COMPARE THESE FACTS

ORDINARY VALVES—Separate valves for each back pressure or suction temperature range. Separate valves for each capacity size.

GENERAL CONTROLS V-200 VALVES—One valve for ALL back pressure or suction temperature ranges. One valve with selective cartridge for full range of capacities.

For Freon, Methyl Chloride and Sulphur Dioxide
For Full Capacity Range in each body size at all back pressures with any one refrigerant

**ONLY ONE VALVE REQUIRED
FOR COMPLETE INVENTORY**

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GENERAL CONTROLS
Manufacturers of Subcoolers, Pressure Transmitters & Flow Controls
FACTORY BRANCHES AND DISTRIBUTORS IN PRINCIPAL CITIES

CONTRACTORS . . .

Continued from page 39

cent session of the Illinois legislature which would have required all builders, contractors, and repair men to pay a tax on their gross receipts were tabled and allowed to die without being acted upon.

As companion bills were proposed in both houses, it was necessary for the RSES group to wage an aggressive campaign to acquaint both branches of the legislature with the objections to these bills.

A letter explaining the proposed law was sent to every refrigeration man in the state. Enclosed with the letter was a petition form which each recipient was asked to circulate among his customers and neighbors, then mail to the senator of his district.

When these petitions began to flood the senators, the house members held a hearing on their companion bill. The state RSES group was well represented by Edward Riccio, Lewis Koehl, and Ralph Porter, all members of the State Board.

Many other organizations affected were notified and were represented at the hearings. Two different hearings were called, after which the measures were allowed to die, through no vote being taken before adjournment.

OVERTIME ON OVERTIME BANNED BY NEW LAW

When President Truman signed the bill known as H.R. 858 recently he virtually banned the so-called "overtime on overtime" under the Fair Labor Standards Act. The law became effective immediately.

Under the new provisions, overtime will be figured out as follows:

Additional pay for work on certain days—Most contracts require special rates for work on Saturday, Sunday, holiday, or 6th or 7th day of work week. If the overtime is at least 1½ times the non-overtime rate for similar work on other days, it may be omitted from base rates for Wage-Hour overtime, and also offset against the overtime for work after 40 hours in the same week.

Additional pay for certain hours—Pay for extra hours of work (such as at night, before or after scheduled

shifts, or at other hours outside the normal day or week) need not be included in figuring the base rate if, as in the case above, the overtime rate is at least 1½ times the non-overtime rate for similar work. It may also be offset against overtime for the same day or week if the normal workday isn't more than 8 hours or the week more than 40 hours.

The new law also provides that no employer shall be subject to any liability under the old act on account of failure of employer to pay employees overtime on overtime for work performed prior to the date of enactment of this Act, if the overtime compensation paid prior was at least 1½ times the regular rate.

NEW DETROIT MEMBER

Mercury Refrigeration Service, operated by Edward J. Mezo at 8532 Vanderbilt Ave., Detroit, Mich., has been admitted to Class A membership in the Refrigeration Contractors Association of Detroit.

**BUY FROM YOUR
REFRIGERATION WHOLESALER**

LOOK to LARKIN

For Efficiency



LARKIN HALF-TURRET HUMI-TEMP

Efficient operation makes a product easier to sell on one hand; builds solid customer satisfaction on the other. Precision engineering—only the best materials—skilled craftsmanship—and almost 25 years experience in commercial and industrial refrigeration—all add up to higher efficiency for every Larkin product. And this means lower operating costs — important to buyer and seller alike.

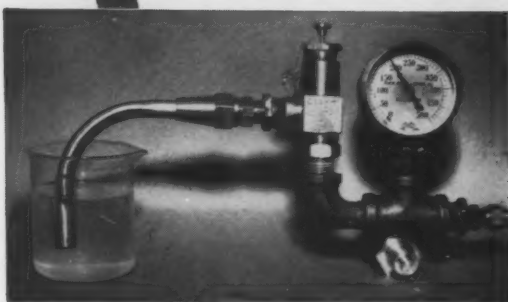
Manufacturers of the original Cross-Fin Coil — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Coils — Direct Expansion Water Coolers — Steel Vacuum Plate Coils — Heat Exchangers.

WATCHDOG OF THE NATION'S FOOD SUPPLY

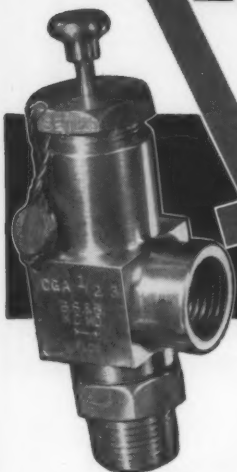
LARKIN COILS
519 MEMORIAL DR., S.E. • ATLANTA, GA.

Even after "repeated popping"...

**HOLDS
FREON
WITHOUT
LEAKING!**



Unretouched photo of BS&B Freon Relief Valve during bubble test. No trace of leakage at 200 lbs. Freon pressure (valve setting 225 lbs.).



THE NEW **BS&B** FREON RELIEF VALVE

You've needed such a relief valve for a long time. Now the precision craftsmen of Black, Sivalls & Bryson are producing it... in large quantities!

Relieves refrigeration systems from pressure rises... re-sets tightly to prevent loss of expensive Freon. Again and again the BS&B Freon Relief Valve has been "popped". Even after as many as 200 times, no trace of leakage is evident.

This valve will function properly with **SAFETY HEAD** rupture disc device on outlet. (See ASME Unfired Pressure Vessel Code, Par. U10-b.)

This BS&B Valve is a quality product... engineered to close tolerances, precise in its action. Ideal for installation on medium and large systems. Approved by City of Chicago Refrigeration Inspection Dept. for installation in that city, with or without **SAFETY HEAD**. Furnished with 1/4, 3/8 and 1/2-inch pipe thread inlet.

Manufacturers, Jobbers—
attractive discounts are provided for large quantity purchases. Write, wire today.



Special Products Division, Section FV-11
BLACK, SIVALLS & BRYSON, INC.
Power and Light Building, Kansas City 6, Mo.

- ☐ Send full details of the new BSGB Freon Relief Valve.
☐ Send quantity discount information.
☐ Please have Sales Engineer call.
I am a ☐ Equip. Manufacturer ☐ Jobber
☐ Distributor ☐ Supply Company

Name.....
Firm.....
Street.....
City..... Zone.... State.....

Compressors Benefit... You Benefit

Texaco Capella Oils improve compressor operation, build business for Service Engineers, Dealers and Distributors.

SERVICE engineers everywhere know that refrigerating compressors run better when lubricated with *Texaco Capella Oils*. These highly refined lubricants are moisture-free and do not react with refrigerants. They have very low pour tests and very high resistance to gumming and sludging. They keep compressors efficient, coils clean.

Because they assure more efficient compressor operation, *Texaco Capella Oils* build business for all who handle them. Leading compressor manufacturers approve the use of *Texaco Capella Oils*, and you can get them in handy 1-qt., 1-gal. and 5-gal. containers, specially sealed to prevent contamination.

Get the benefits of better business that *Texaco Capella Oils* can bring you.

☆ ☆ ☆

The Texas Company, 135 East 42nd Street, New York 17, New York.

FREE LUBRICATION GUIDE

Latest edition. Lists makes and types of compressors and refrigerants used in 63 Electric Refrigerating Units and 31 Air Conditioning Units. Shows recommended grade of *Texaco Capella Oil* for each. Use guide as wall chart, or bind into service manual.



TEXACO Capella Oils
FOR ALL AIR CONDITIONING AND REFRIGERATING EQUIPMENT



THE PRACTICAL Refrigeration Applications MANUAL ... by Harold Smith

coils are needed in each room, and the size blower coil recommended as most efficient for the job."

SOLUTION

WE HAVE given careful consideration to your letter outlining the proposed lettuce storage installation.

We are not altogether sure, from your letter, whether each room will carry 10 tons of lettuce at the same time, a total of 20 tons, or whether each room will carry 5 tons at the same time, a total of 10 tons.

There is also the question of whether both rooms will be cooling lettuce at the same time or whether they will be used alternately, with one room being used for a 12-hour period and then unloaded while the other room is loaded for 12 hours.

Because of this uncertainty, the problem could be set up for any of the following operating conditions: one 5-ton load in one cooler at a time, making a total of a 5 ton load only; one 10-ton load in one cooler at a time, a total 10-ton load; two 5-ton loads in the two coolers at one time, a total of 10-ton load; or two 10-ton loads in the two coolers at one time, a total 20-ton load. We will, therefore, give engineering figures for a 5-ton load, a 10-ton load and a 20-ton load.

The building to be insulated and used for the lettuce cooling and storage is 40 feet long, 21 feet wide, and the rooms are to be 8 feet high. If a loading space 10 feet wide is to be placed through the center of the building, the outside dimensions of the two storage rooms on either side would be 15 feet wide x 21 feet long; the inside measurement allowing for 1-foot-thick walls, would be approximately 13 feet x 19 feet. One door should be provided entering each room from the loading platform, these doors being located on the 19-foot walls.

If maximum load in each cooler is to be 5 tons of lettuce, each floor type evaporator should have a capa-

THE Practical Refrigeration Applications Manual extends a helping hand to those refrigeration and air conditioning men who occasionally encounter field engineering problems too tough for them to handle. Space limitations make it impossible to give complete detailed information covering each step necessary for the installation or erection of refrigeration equipment, insulation or fixtures. It is necessary to assume that those readers who request assistance with their problems are familiar with these basic fundamentals. If they are not, it is suggested that they seek this advice from their sources of supply when purchasing the materials which they intend to use on the job. Most suppliers are equipped to furnish such information. Readers are urged to submit their problems to this department. Each letter of inquiry will be answered personally by the author. The most interesting ones will be published in these columns. All problems should be clearly and completely stated and addressed to: COMMERCIAL REFRIGERATION AND AIR CONDITIONING, Manual Dept., 1240 Ontario St., Cleveland 13, Ohio.

PROBLEM

A VEGETABLE grower has asked us to build a cooler for cooling and storing his lettuce. He has a building available that is 21 feet wide and 40 feet long. The building is constructed of 1-inch boards inside and out on 2 x 4 studding, with a 10-inch space between the walls. He plans on filling this 10-inch space with either Palco Wool or Zonolite.

"The building has a $\frac{1}{2}$ pitch roof, and there is room for 14 to 18 inches of insulation in the ceiling. The wall height will be 8 feet, and the space above the ceiling will be ventilated. The ceiling area will therefore be the same as the floor area. The floor is constructed of 4 inches of concrete.

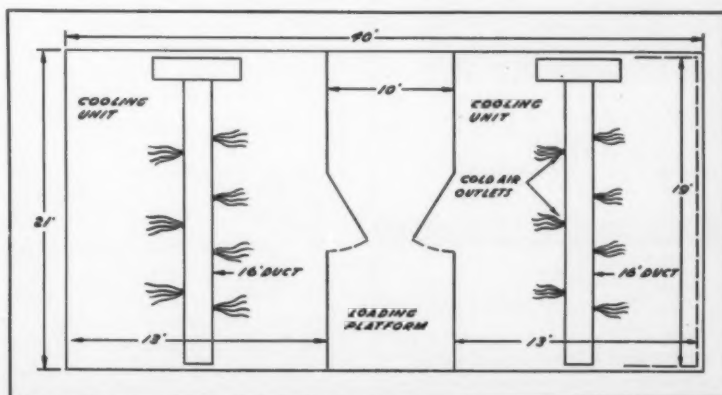
"The load to be cooled will be as high as 10 tons of lettuce, cut either in the early morning or late in the evening. This lettuce will be placed in the cooler in crates stacked in rows with sufficient room between the rows for fairly good ventilation. However, any suggestions you can make on arranging the lettuce crates in the room will be appreciated.

"The owner would like to divide the building into two rooms, with a 10 or 12-foot loading room or platform in the center. By dividing the building into two rooms he will be able to load cool lettuce into his

trucks from one room, and put the fresh cut lettuce into the other room for cooling.

"The average temperature in the summer is around 80 degrees, and the temperature in the morning when the lettuce is cut would be about 60 degrees. The lettuce cut in the late evening would be 70 degrees or slightly higher. The temperature desired in the cooler is 38 to 42 degrees, and the cooling time 12 hours.

"We would like to know if the insulation suggested would be adequate, and if so what type of sealer should be used on the inside walls and floor. We would also like to know the size and number of condensing units to use, whether one or two blower type



THE LATEST BOOK ON REFRIGERATION REPAIR



Pocket size—4¼" x 7¼". Limp Binding. 704 pages. \$5.00 each.

Every repair man and owner should have this book at hand for ready reference. Written by Edward R. Magnus, a recognized authority and consulting engineer on refrigeration, the book contains 21 reference tables and 139 line illustrations. Servicing instructions follow a logical pattern in which the problem is presented, the equipment necessary is listed, general instructions follow, and the operation is completed with a short paragraph on precautions to be observed in making the repair.

The Refrigerating Engineering Magazine says: "... We recommend the REFRIGERATION SERVICEMAN'S MANUAL to the practical engineer, technician, or student without reservation."

USED AS A TEXTBOOK IN 18 LARGE REFRIGERATION SCHOOLS

PUBLISHED BY
WILCOX & FOLLETT CO.
CHICAGO NEW YORK



Note to Jobbers: For a short time only on an order of ten or more copies of this book we will include a handy counter-display rack as pictured.

SEND FOR YOUR COPIES TODAY.

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Chicago 5, Illinois
Please send me _____ copies of the
REFRIGERATION SERVICEMAN'S MANUAL.

Name _____

Street Address & Zone _____

City & State _____

Include display rack ☐

city of 60,000 Btu per hour at 13 degrees td., or 4600 Btu per 1 degree td. The thermal expansion valve should be of 10-ton capacity.

If maximum load in each cooler is to be 10 tons of lettuce, each floor type evaporator should have a capacity of 110,000 Btu per hour at 13 degrees td., or 8460 Btu per 1 degree td. The thermal expansion valve should be 10-ton capacity.

If total refrigeration load is 5 tons of lettuce cooling at one time, two 7½-hp water cooled condensing units are recommended, one for each cooler. Or if desired, one 10 hp water cooled unit could be used to operate both coolers.

If total refrigeration load is 10 tons of lettuce cooling at one time, two 10-hp water cooled condensing units are recommended, one for each cooler. Or one 20-hp water cooled condensing unit could be used for operating the two coolers.

These equipment recommendations are based on temperature in the cooler of 38 F, refrigerant temperature of 25 F, and temperature differential of 13 degrees. In estimating the refrigeration load for each cooler, we find the heat leak and service load to be approximately 10,000 Btu per hour with 80 F maximum outside temperature and 38 F cooler room temperature based on using 10 inches of either wood fibre or mineral wool insulation packed in walls and ceiling.

The products load is 80% of the total refrigeration load (approximately 50,000 Btu per hour) when cooling 5 tons of lettuce in one room or 90% of the total load (100,000 Btu per hour) when cooling 10 tons of lettuce in one room. The products

load consists of cooling the wooden crates, and cooling the lettuce from a maximum of 70 F to 40 F in 12 hours. It also includes the handling of the heat of evolution or enzymic activity in the lettuce during the storage period.

Regarding the methods to be followed in installing the insulating materials you plan to use, we suggest you consult the company supplying this material. They can probably furnish detailed printed directions for both installation of the material and methods for providing a satisfactory moisture proof bond between the insulation material and the outside walls.

If a single condensing unit is used to operate the two coolers, we recommend that solenoid valves be placed in the liquid lines running to each of the evaporators, each solenoid to be operated from room thermostats installed in each room. This gives individual room temperature control in each cooler. The low pressure switch can be set to cover the overall operating pressure range for the system and give cycling operation when one or both rooms, and the products they contain, have been cooled to the desired temperature.

Follow the condensing unit manufacturer's recommendation for the size of the liquid and suction lines. If any changes are made, we would suggest using one size larger pipe rather than reducing the pipe size recommendations. Be very sure that an adequate volume of water is available at all times for condensing purposes. Use an evaporative condenser if there is any question regarding water supply, or if saving of water is essential.

REPORT PROGRESS ON COIL STANDARDS

The Joint Coil Committee, representing the Refrigeration Equipment Manufacturers Association and the Air Conditioning and Refrigerating Machinery Association, Inc., reports it is making definite progress in the development of recommended industry standards for blower coils. The committee's primary objectives are:

(a) To develop industry standards for forced-circulation, free-delivery air coolers for commercial refrigeration, covering recommendations on methods of testing and rating, minimum standard equipment, safety requirements, and minimum published data; also, application standards pertaining to such air coolers.

(b) To develop similar industry standards for natural-convection air coolers for refrigeration including both equipment standards and application standards.

TWO LOVELY MODELS



The new Firestone 19-cu. ft. upright freezer takes up no more space than a conventional refrigerator, yet holds 625 pounds of frozen food. Use of Monsanto's lightweight Santocel insulation reduces walls to 2½ inches in width. Note lightweight inner compartment doors that afford easy access to any part of the freezer without exposing the rest of the contents.



Bend it any way you like

(It's uniformly dead-soft)



Dry as a bone inside

(Special mechanical end seal sees to that)



HERE is the tube that meets *all* of your exacting requirements.

Being uniformly dead-soft it can be bent with the hands with little effort. Precise, mechanical sealing at each end of the tube, assures you of a tube that is dry throughout its entire length.

And because the seal has the same diameter as the tube it will pass through any opening large enough for the tube itself. Another feature you'll like is that Dryseal Tube, because of the ductility and soft temper of the copper used, does not split on the end when flared for compression fittings.

Dryseal is made to new, more economical dimensional standards with tube sizes from $\frac{1}{8}$ " to $\frac{3}{4}$ " O.D. It comes neatly packed; two 50-foot coils to the carton. Carton is attractively designed so that it is easy to identify in stock.

All of which makes for an easier, faster, trouble-free, quality installation.

Ask your distributor about Dryseal next time you order refrigeration tube. He has Dryseal and will give you prompt delivery.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, New York

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.;
Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.
Sales Offices in Principal Cities, Distributors Everywhere

COMMERCIAL *Refrigerator* SALES NEWS

Suspended Units Save Valuable Floor Space

One answer to the problem of providing adequate refrigeration facilities in the limited space available in many small food markets is the "suspended type" of compressor installation employed in the Mehringer Market, St. Louis.

In order to allow fullest possible use of the store's limited amount of valuable display and storage space, both on the street level and in the basement, the three Frigidaire 1/2-hp rotary "Meter-Miser" refrigerating units which cool the market's three 10-foot Frigidaire double-duty cases were suspended from the ceiling above these cases, as shown in the accompanying photograph.

In making the installation, J. J. Tenge, one of Frigidaire's commercial refrigeration dealers in St. Louis, suspended each of the compressor units from the ceiling by use of three flexible metal rods. In so doing, he made use of space which otherwise

would have been wasted and preserved the space where the machines normally would have been installed for more productive purposes.

Since this up-to-date equipment was installed to replace the store's old fashioned dry display racks, the Mehringer Market has increased its profits on fresh fruits, vegetables, and dairy products by approximately \$100 per month, or about 33%. George Mehringer, Jr., who has owned and operated this market for about 30 years, reports that in addition to thus increasing the store's profits this new equipment has enabled him to reduce his store's produce losses by about 10%.

"On top of all this," Mehringer points out, "we save about an hour a day by eliminating the loading and unloading of the old dry racks each morning and evening. Now, when we're ready to close up, we simply cover up the cases and go home."



George Mehringer, Jr., (left), veteran St. Louis neighborhood market operator, helps a clerk load the modern refrigerated display cases which have enabled him to boost his store's produce profits by about 33%. Note the compressors suspended from the ceiling above each case.

SAN ANTONIO DEALER GROUP DISBANDS

Members of the Commercial Refrigeration Association of San Antonio (Tex.) have decided to indefinitely discontinue meetings of their organization due to the apathy evidenced by many of the group's personnel, according to a report from Glenn Chapin, one of the most active members of this local group and public relations chairman of the National Commercial Refrigerator Sales Association.

"As conditions changed from sellers' market to buyers' market," Chapin advises, "most of the members became discouraged and dropped out one by one. Our last few meetings were attended by only three or four members, therefore it was agreed by those present to discontinue the meetings until such time as the proper interest could be aroused."

ONE-WEEK PHILCO SALES SET MARK

Sales of Philco single-room air conditioners to dealers in the first week of July amounted to 50% more than in any previous week in the company's history, it was announced by W. Paul Jones, vice president, Refrigeration Div., Philco Corp.

COOLERATOR APPOINTS NORFOLK DISTRIBUTOR

Bowers Wholesale Corp., Norfolk, Va., has been appointed distributor for Coolerator products in Norfolk, eastern Virginia, and the northern territory of North Carolina. George H. Bowers is president of the firm.

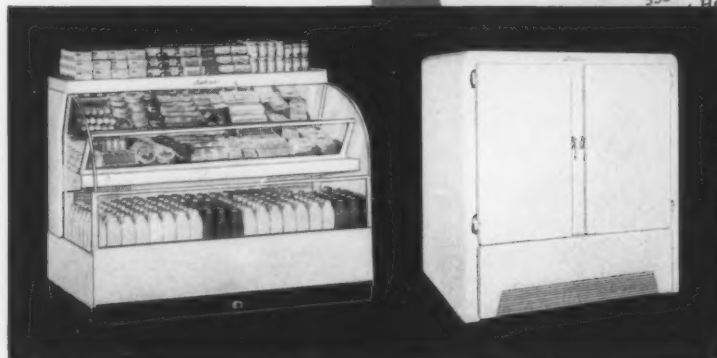
NAMED FRIGIDAIRE DEALER IN MICHIGAN

The Jentzen Miller Co. of Hazel Park, Mich., has been appointed a retail distributor for the Frigidaire line of commercial refrigeration and air conditioning equipment by Frigidaire Sales Corp., Detroit. The sixth such Frigidaire outlet in the Detroit metropolitan area, the firm's refrigeration division will be managed by A. Chaitman and Al Polancy. Complete engineering and service facilities are provided by the dealership.

Speaking of response...

● Plenty of satisfied customers keep telling us what we've been telling you all along—that McCray Koldflo is today's best bet in commercial refrigeration. Why not get the full McCray Koldflo story that opens the way for quick customer response and big profits for you.

McCray Koldflo Multiple-Deck, Self-Service, Dairy Display Case—each 6-foot section gives 30% more product on display.



THE BEST IN
LOW-COST REFRIGERATION

McCray

KOLD FLO

and AIR CONDITIONING • SEPTEMBER, 1949

In all of my experience with refrigerators
...this (McCray Koldflo) takes top honors
for efficient dependable service.

Carl W. Davis
Operator and Chef,
Hickory House Cafeteria,
Toledo Scales Co., Toledo, Ohio.

This new McCray Koldflo has
increased my produce profits 30 %
by cutting waste to a minimum!

Cletus Moser
Produce Manager,
Sternbaum's Complete Food
Market, Fremont, Ohio.

Rush baking is out since I got this time-
saving McCray Koldflo Dough-Retarder!

Chidney Polisman
Linda's Cookie Jar,
1449 Boston Avenue,
Bridgeport, Conn.

Our thank
30% inc
department

Christian Cough
Manager, Weisbecker Markets,
517 W. 181st St., New York, N. Y.

Koldflo display case
and our impulse sales
in fruits and vegetables!

J. O'By
President, Sunrise Food Exchange,
Long Island, N. Y.

Dairy profits are up 32% since we created
a complete department with a new McCray
Koldflo 3-deck case.

Louis Maller
Associated Food Stores,
558 Hempstead Avenue,
Hempstead, N. Y.

sales have doubled since
I added a McCray Koldflo
display case in our store.

Phillip Joseph
Joseph's Super-Market,
Toledo, Ohio.

McCray Koldflo 40 cu. ft. Reach-In with full-length service doors—
8 adjustable, reinforced metal-bar
shelves—self-contained semi-her-
metically-sealed condensing unit.

McCray Refrigerator Company, 996 McCray Court,
Kendallville, Indiana.

Please send me complete information on the line of McCray
Koldflo commercial refrigeration equipment.

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____



How Are Your Public Relations?

IMPROVED public relations are needed during the present business adjustment more than ever before.

Good public relations always have been an important link in the chain of business success. Today, with receding sales volume and high break-even points, favorable public relations often can mean the difference between success and failure.

Salesmen contacting prospective customers in the field, or store em-

ployees meeting customers in the store, can—through courteous treatment and a sincere attempt to understand and overcome the customers problems—build up an unbelievable amount of good will and consequently increase sales volume for their company.

Employees' contacts with customers over the telephone are particularly important. Due to the lack of actual personal contact a thoughtless word or statement, an unpleasant tone of voice, a suggestion of impatience in

the conversation, easily may be misunderstood by the customer as an act of indifference on the part of the employee, even though the employee actually is attempting to handle his work conscientiously.

The customer is important to every business and should be given every possible consideration.

Careful training of employees in handling public relations contacts can pay real dividends to business, by increasing present sales and building good will for future sales. It is, therefore, a duty of management to pay more attention to the training and the



development of good public relations with the customers, through the medium of their employees who are regularly contacting these customers.

Good relations between the employees of an organization also are very important. Good employee relations invariably improve overall efficiency in the business operation, reducing operational expenses.

Employees must be trained to work well together, to cooperate to get the job done efficiently. Such cooperation includes helping the other fellow with his work, passing along information to another employee that will improve his efficiency, refraining from criticizing other employees or the management, or in other ways creating discontent among the employees.

An efficient business operation can only be secured through good public relations practices by the company

UP TO THE MINUTE PRODUCT INFORMATION —

An Added Service at Your

REWA WHOLESALER

What's new in the trade? Your business progress depends on fast, accurate information on new products, changes in design, price adjustments.

Your REWA wholesaler supplies you with the latest catalog information, keeps you posted through advertising and other promotional aids because he is in constant contact with the manufacturers.

Your REWA member's own catalog makes it easier for you to select your needs.

**To Know More — To Know Sooner
See Your REWA Wholesaler**

**180 MEMBERS
MAINTAINING
OVER 300
CONVENIENT
OUTLETS**

BUY FROM A



MEMBER

H. S. McCloud, Executive Secretary

920 East McMillan St., Cincinnati 6, Ohio

personnel in their daily contact with each other. One unpleasant, complaining, dissatisfied employee spreading discontent in his contacts with other workers can do a great harm to any organization, tearing down efficiency as well as breaking up good fellowship and team work, and resulting in losses that increase the cost of operations to an unbelievable extent.

Therefore management should take every precaution to eliminate discontent and improve public relations between their employees.

Management also should work to improve relations between employees and management.

A system should be set up which enables an employee to come to the head office with his problems. Management should give every employee an opportunity to explain his problems or troubles and should try to create a feeling of confidence and sincerity to encourage the employee to look for help from the front office.

Management should work with every employee to eliminate the existing problem or to convince the employee that the problem is a matter of misunderstanding on his part. Management should be reasonable and fair in all its dealings with the personnel. Management should attempt to keep all employees enthusiastic regarding their work, by giving employees praise when due and incentives to increase their efficiency.

Public relations in all its branches is basically the practice of the golden rule, "Do unto others as you would have them do unto you." In practice it can pay off in real dividends, making it an important responsibility and a real challenge for efficient business management.

AL GATZ FORMS OWN FIRM; LEAVES SERVICE PARTS

Al Gatz, formerly a partner in Service Parts Co., of Melrose Park, Ill., has severed his connection with that company and is establishing his own wholesale refrigeration supply house under the name of Service Sales Co. at 4204-6 N. Lincoln Ave. on the north side of Chicago.

Gatz, whose interest in Service Parts Co. is being taken over by his

former partners, Pat Ravanesi and Ed Jaske, will handle a full line of parts and supplies for the refrigeration trade. The new company which he has formed bears the same name he used when he started in business 15 years ago.

TUBE TURNS MOVES LOS ANGELES OFFICE

The Los Angeles branch office of Tube Turns, Inc., manufacturers of welding fittings and flanges, has been moved to Suite 447 in the General Petroleum building, 612 South Flower St. The office was formerly at 1489 West Washington Blvd. Manager of the branch is Norton P. Bosemer.

TEXTILE MILL TO USE \$500,000 SYSTEM

Gaffney Mfg. Co., textile mill at Gaffney, S. C., will install a \$500,000 air conditioning system as part of a modernization system. The installation actually will comprise eight separate air conditioning systems, one for each five- and three-story building, and is being added to improve both working conditions and production.

HINCKLEY & SCHMITT
Manufacturers of
Standard and Certified Motors
Refrigerators
and Air Conditioning Equipment

"definitely a time saver"
"very simple to adjust"
"performance very satisfactory"

—so writes Frank Kloss, Service Supervisor
of Hinckley & Schmitt, "World's Largest
Water Distributors."

**NEW
ALLIN
CAPILLARY TUBE**

Easy external adjustment—for ALL refrigerants—on any job from 1/4 H.P. to 1 H.P.

Large area 150 mesh Monel screen protects orifice against clogging.

Straight-through design provides accurate means of metering refrigerants

ASK YOUR WHOLESALER
or write direct for additional information and prices.

Copy of Hinckley & Schmitt letter available upon request.



ALLIN MANUFACTURING COMPANY
1153 West Grand Ave., Chicago 22, Ill.

New... a cost-saving EXCHANGE PLAN for **TRI/CLAD** Integral-hp Motors



General Electric is happy to announce that the motor exchange plan which proved so successful with fractional-hp motors has been extended to cover integral-hp Tri-Clad motors. 16 Motor Exchange Centers are prepared to make an immediate exchange of Tri-Clad open (dripproof) motors (popular types, 4-pole, 1 to 5 hp) during the first five years of service. How the new plan works to reduce machine down time and motor replacement costs is told in Bulletin GEA-5189 (for motor users) and Bulletin GEA-5180 (for machinery manufacturers). SEND FOR YOUR FREE COPY to Apparatus Department, General Electric Company, Schenectady 5, N. Y.

756-2

GENERAL  ELECTRIC



We're looking forward to seeing you at the Atlantic City ALL-INDUSTRY Show, November 14-15-16-17-18. Look for us in Booths 626 and 628 in the Auditorium. You'll be mighty welcome!

Look, too, for the new exact replacements which have been added to the Ranco wholesaler line . . . the most complete line of refrigeration Replacement Controls ever supplied to the trade.

Ranco Inc.
COLUMBUS 1, OHIO



World's Largest Manufacturers of Refrigeration Controls
. . . more than 20,000,000 controls now in use

HERE'S HOW!

Edited by
Warren W. Farr

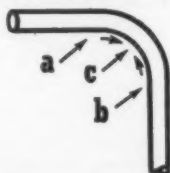
Opening Hermetic Units

Many methods have been used to cut open hermetic units, including hand grinders, lathes, and even hack saws, but the best and most modern method is with a cutting wheel.

A STANDARD 8 or 10-inch crescent wrench can be one of the most effective tools in a service-man's kit if it is used to full advantage. For instance, it can save much time and many a headache in straightening out a tubing bend which has been made so short that the flare nut will not slip onto the tubing far enough to permit fastening of the flare block, or in safely rounding out tubing which has been flattened.

For the latter purpose, simply close the jaws of the wrench on the tubing where it first begins to flatten, gradually taking up the slack on the jaws until the wrench bears an even pressure all around the tubing. A few turns in this manner will restore the tubing to perfect roundness.

The same technique can be used on a bend which needs straightening, but in such cases the procedure should be to work toward the center of the bend from both directions (see sketch). As indicated, first use



the wrench at point "a", working toward the center of the bend at "c". Then start at "b" and proceed in the same manner. Finally, round out at "c". Now the flare nut will easily slip around the bend, or at least into the center of a sharper bend. This procedure often will permit you to shorten the tubing and get a closer flare to the bend, or to repair a broken flare.

Paul E. Heffner,
Allentown, Pa.

To perform this operation properly, the hermetic dome must be held true in a lathe or some other such machine where it can be rotated slowly as the cutting wheel is fed into the original weld. Wheels used for this work are formed of carborundum aloxite resenoid, with dimensions of $\frac{1}{8}$ -inch in thickness and 7 inches in diameter.

Points on Installing Low Pressure Systems

3. *Locating and placing the condensing unit* is an item of major importance, as the condensing unit is the heart of the system. It must be as reasonably close to the fixture as conditions will allow, and protected against unnecessary dirt, dampness and the possibility of damage and tampering. Adequate ventilation is necessary and, if air cooled, it may require forced ventilation to assure efficient condensing unit operation, particularly during the summer months. An electrical power supply to suit the motor characteristics must be available, and also a water and drain service for those condensing units using water, or a combination of air and water, as a condensing medium. The condensing unit base should be level and firm and, if possible, elevated on supporting blocks, piers, or a suitable foundation that will reduce vibration and noise transmission to a minimum.

Altitude Affects Control Setting

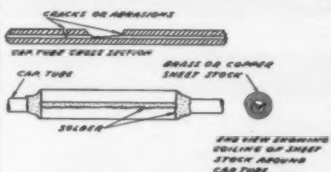
"Does altitude have an effect on settings of the temperature control?" one of our readers asks.

Definitely yes. At higher altitudes, for a given setting of the temperature control, the refrigerator will be kept at a lower temperature, because the "cut-on" limit for the control drops

1 F for each 1000 feet of elevation above sea level. Standard settings for the temperature control are maintained by adjusting the temperature range screw, on the temperature control, which compensates for altitude effects.

WHENEVER cracks or abrasions appear on capillary tubing, causing minor leaks, I find that the quickest, most effective method of repairing such damage is one that I devised and have frequently used with positive success.

Where abrasions occur and wear through the tubing wall, I first re-



move the burrs or any splinters of copper from within the tube by using a fine needle. Next I cut a strip of thin sheet brass or copper stock wide enough to overlap the worn section by about $\frac{1}{2}$ -inch on either side and long enough to wrap tightly around the tube three or four times.

When starting to wrap the metal sheet around the tube, I make sure that the sheet completely covers the hole. Both the surfaces of the tube and of the sheet must be thoroughly cleaned and brightened to insure proper soldering. When the wrapping is complete, I solder the overlapping edge of the metal sheet and both ends, applying heat long enough to permit the solder to flow a short way beneath the sheet so as to insure a sturdy, gas-tight seal.

Robert B. Hicks,
Toppenish, Wash.

(Editor's Note: While this method of repair should prove satisfactory for emergency use, when replacement materials are not available, a far better practice would be to replace the defective capillary tube whenever possible.)

**greater
resiliency**

Jarrow...

Refrigerator Door Gaskets Are Again
Made From Crude Rubber

Always Demand These
Quality Gaskets

JARROW PRODUCTS
420 N. LA SALLE ST. CHICAGO 10, ILLINOIS

*I do it
this way...*

IN STARTING up air conditioning machines which have been idle for some time due to seasonal operation or some other reason for shutdown, I have found that frequently the customer suffers from a deposit of fine dust which is blown out of the air outlet when the system is placed in operation. Even if no actual damage occurs, this shower of dust is a nuisance and is apt to irritate the customer.

To eliminate this sort of a condition I now make pads composed of about four layers of gauze and large enough to cover the outlets of the discharge duct. These pads are held in place over the ducts by means of Scotch tape, which will hold the pads firmly but will not mar the surrounding surface. The pads can be removed just as soon as they have filtered out all of the dust which had collected in the system during the shutdown.

Result? A happy customer, because he feels you are really looking after his interests.

Chas. Doyle,
Brooklyn, N. Y.

Why Not "Lift the Lid" With Advertising?

Have you ever noticed a prospect on your sales floor walk up to a chest-type freezer and lift the lid to look inside? Sure you have, dozens of times! So why not capitalize on the average person's curiosity by affixing to the inner side of the lid of each freezer a punchy sales message?

This could be done in a variety of ways.

Perhaps you have a piece of manufacturer's literature describing that freezer which will just fill the bill. The more colorful and eye-catching it is, the better. Or, if you don't have any stock materials available for this use, you can have some sort of a colorful display card prepared to boldly present the freezer's key features and its price.

Even a brief, legible sales message printed with grease pencil directly on the surface of the under side of the lid would catch the prospect's eye as he peeks inside the unit.

WANT TO EARN \$5?



You don't have to be a writer or a literary genius! Just jot down some of the shortcuts you've developed in your maintenance or installation work and send them to **HERE'S HOW** EDITOR, COMMERCIAL REFRIGERATION AND AIR CONDITIONING. Your \$5 will be paid promptly when your maintenance tip is published in the magazine. Let's hear from you!

Question:—If a unit is operating 1000 feet above sea level what is the reaction, if any, on gauges and pressure controls, compared to the same unit at sea level?

Answer:—With the same settings, the unit at 1,000 feet would operate at slightly lower pressures with correspondingly less running time, although at this difference in altitude the effect is hardly noticeable.

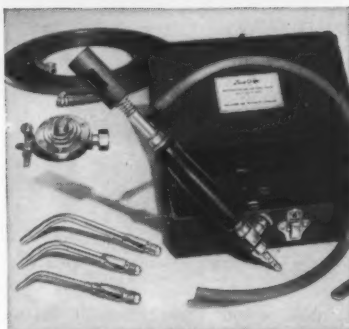
For Locating Leaks • Soldering • Heating • Brazing

Prest-O-Lite Trade-Mark **REFRIGERATION OUTFIT**

ALL-PURPOSE—Handiest kit yet for installer and service man. 3 stems for soldering, heating, and brazing. Detector for locating non-combustible refrigerant gas leaks.

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"Prest-O-Lite" is a trade-mark.

Order from your local Jobber

OPPORTUNITIES

(Classified Advertising)

Rates: for "Positions Wanted," \$4.00 minimum, limit 25 words. For all other classifications, \$4.50 minimum for 25 words or under, each additional word 15c; boldface type or all capitals, \$7.50 minimum for 25 words or under, each additional word 20c. Box addresses count as five words, other addresses by actual word count. All advertisements in this section are payable in advance.

POSITIONS AVAILABLE

Air Conditioning and Refrigeration Engineer with practical experience. Extended program offers excellent opportunity. Give full particulars, advising salary expected. Box 8349.

COAST REGIONAL MGR. FOR KELVINATOR DIES

Clarence J. Bachman, Pacific Coast regional manager for Kelvinator, died July 30 in Alta Bates Hospital at Berkeley, Calif.

Born in Young America, Minn., Oct. 24, 1895, Bachman joined the Kelvinator sales department at Detroit in June, 1938, and became manager of the Dallas branch late that year. He was appointed Pacific Coast regional manager in 1939.

NARDA GUIDE NOW COVERS APPLIANCES

The 1950 official NARDA Trade-in Guide, to be printed early in September, will include trade-in information for five major appliances. Besides refrigerators, electric ranges, washers and vacuum cleaners, a new section on gas ranges has been added. The listings in the five sections total approximately 5500 models.

The guide, furnished to all members of NARDA, is available at \$5 per copy from the NARDA Guide Co., 20 North Carroll St., Madison 3, Wis.

A DRINK ON THE HOUSE!



Baker Refrigeration Corp.'s "Ice-Flo" automatic ice cube making machine was the center of attraction in the company's booth at the Portland (Maine) Better Homes Show, as more than 15,000 people jammed this exhibit space during the six-day exposition. The machine was equipped with a transparent top so that people could see the ice cubes actually being made. At the suggestion of Tom Pendergast, Baker's president, a sign was erected offering free water from Sebago Lake, chilled with "Ice-Flo" cubes also made from Sebago Lake water, which is famous throughout the state for its purity. Girls from Baker's offices and even wives of Baker personnel worked in relays to serve the ice water to the interested and appreciative visitors.



ATLANTIC CITY, N. J.
PROMOTE YOUR LINE IN '49
FOR BIGGER SALES IN '50!

BUY FROM YOUR
REFRIGERATION WHOLESALER

NO MORE FREEZE-UPS of expansion valves or capillary tubes!

ICE-X works like magic
SERVICE MEN SAY: "ICE-X IS GREAT!"



When ice forms in expansion valves or capillary tubes, ICE-X is a sure remedy . . . ICE-X is non-corrosive—harmless to parts. An ice-eliminator that can't be beat for Freon, Carrene, or Methyl Chloride systems . . . Order from your jobber. If no jobber, order direct.



Service doesn't falter
when it comes from Harry Alter

Jobbers: Ask for special offer!

The HARRY ALTER CO.

Exclusive
ICE-X
Distributor

1728 S. Michigan Ave. Chicago 16, Illinois



MINI-VOLT

Instantly read voltages right off dial. 65 to 660 v. A.C. Also D.C. Virtually burnout-proof. Lamp guaranteed for 10,000 hours. Plastic case. 12" flexible test leads. And only \$2.75 list!

- Not only distinguishes between 110, 220 etc. volts, but measures line voltage close enough to show up 2 volt drop between meter and lead terminals on 110 v. line.

- No refrigeration serviceman need now be without definite knowledge of whether faulty operation of motors, magnetic valves, etc. is due to improper terminal voltage.

- Checks for blown fuses, accidental grounds, circuit continuity. Useful for electrical troubleshooting in general.

- Not subject to error of "false indication" common to neon test lamps.

It's a "must." Saves time, money, life and limb! Order from supplier, or from

INDUSTRIAL DEVICES, INC.,
EDGEWATER 11, N.J.

VIRGINIA REFRIGERANTS



**consistently pure
consistently sure**



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Your Choice of
TWO



**Self-Cleaning
Water Regulating
Valves**



**New "VEE-BLOCK" Shaft Seal
Sets Endurance Record**

Over 3,500,000 on-and-off cycles, the equivalent of many years' actual service, have been given A-P Water Valves with the New "VEE-BLOCK" shaft Seal. Even with sharp abrasives added to regular tap water, the seal showed no leakage after this record-smashing performance.



**Automatic Self-Cleaning
means trouble-free operation**

A unique sliding plastic seat on both Model 65 and 68V wipes the orifice free of dirt, lime, scale, sand at every cycle. Can't be stopped by water impurities. Assures longer service.



...to improve and protect water-cooled compressor performance

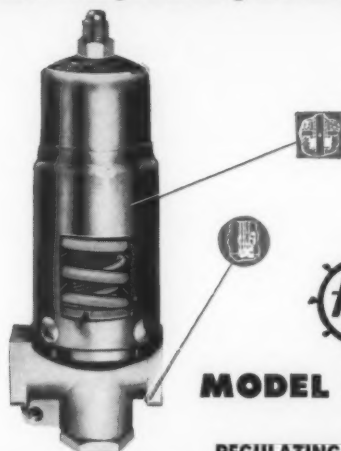


MODEL 65

**WATER
REGULATING VALVE**

With 65 to 200 p.s.i. Head Pressure Range

A new design in water valves for water-cooled condensing units, Model 65 is compact in size to fit into small space. Easily installed, has integral 32" capillary, self-cleaning plastic seat, stainless steel orifice, and new "VEE-BLOCK" neoprene leakproof shaft seal. For compressors up to 6 H.P. Operating head pressures, 65 to 200 lbs. easily adjustable to system. Maximum water pressure, 150 lbs. $\frac{3}{8}$ " and $\frac{1}{2}$ " inlet and outlet. Also will be available on special order for Freon 22, in addition to Freon 12.



MODEL 68V

**WATER
REGULATING VALVE**

With 50 to 150 p.s.i. Head Pressure Range

The original pressure-actuated self-cleaning Water Regulating Valve, Model 68V also has the new "VEE-BLOCK" leakproof seal, similar to Model 65. Both the pressure bellows and the compensating adjustable spring assembly are housed in the streamlined casing above the outlet and inlet. Adjustment is made by simply turning the large nut accessible through the ports in the body. Operating Head Pressure, 50 to 150 lbs. Maximum water pressure 125 lbs. Three sizes— $\frac{3}{8}$ ", $\frac{1}{2}$ ", and $\frac{3}{4}$ " orifice.

See both of these valves at your Refrigeration Wholesaler, or write for latest bulletins.

AUTOMATIC PRODUCTS COMPANY

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STOCKED AND SOLD BY GOOD REFRIGERATION WHOLESALERS EVERYWHERE . . .
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